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## ORIGINAL LECTURES.

### CLINICAL REMARKS ON SCARLET FEVER.

*Delivered in the New York Foundling Asylum, April 22, 1882.*

BY PROF. J. LEWIS SMITH, M.D.

*(Concluded from page 59.)*

It will be necessary in the brief time allowed for a clinical lecture to pass over or only briefly allude to some subjects of interest relating to scarlet fever. One is the incubative period, which varies from a few hours to nearly a week, being, like that of diphtheria, different in different cases. Rarely there is apparently no incubation. Dr. D. W. Richardson (Clinical Essays, 1861, vol. i. p. 94) states his own experience. He had applied his ear to the chest of a patient suffering from scarlet fever, and was conscious of a peculiar odor emitted by the patient. He was immediately nauseated and chilly, and from that moment he dated the beginning of an attack of scarlet fever.

In the Transactions of the Clinical Society, London, vol. xi., 1878, C. Murchison gives the statistics of seventy-five cases showing the incubative period; as follows:

In 4 cases it was not more than	24 hours.
" 2 " " "	30 "
" 3 " " "	36 "
" 4 " " "	40 "
" 1 " " "	41 "
" 4 " " "	48 "
" 1 " " "	54 "
" 1 " " "	2½ days.
" 2 " " "	3 "
" 1 " " "	3½ "

In 31 other cases it was within 4 days, the time not being more accurately ascertained.

In 2 cases the period did not exceed 4½ days.

" 17 " " "	5 "
" 2 " " "	6 "

Total number of cases 75.

In three cases Murchison believes that the time of infection was precisely fixed at 36 hours, 3 days, and 4½ days.

Passing over the fact that scarlatina is less contagious than most of the other eruptive fevers, probably from the fixity and feeble volatility of its specific principle, so that Dr. Billington (N. Y. *Medical Record*, March 23, 1878) found that in twenty-six families, in which ninety children were exposed to the malady, only forty-three, or about 50 per cent., contracted it; passing over the fact that its area of contagiousness is small, so that effectual quarantining in a domicile is easy if all intercourse with the infected room be prevented; passing over the fact that from unknown causes the type of scarlet fever varies in different seasons, varies beyond that of any other infectious malady except diphtheria, we come now to an interesting subject to which I wish to call your attention—one not so generally known as those to which I have alluded. The fact has long been known that after surgical operations, and even sometimes in surgical cases not requiring operative measures, a scarlatiniform efflorescence appears upon the surface of the whole, or nearly the whole, body, and remains for several days. Cases observed have been adults as well as children. Sir James Paget and other distinguished London surgeons

regard this disease as true scarlet fever in most instances, and they designate it surgical scarlatina. They believe that there has been a previous exposure to the scarlatinous poison, and that the surgical ailment or operation furnishes favorable conditions for the occurrence of scarlet fever; so that the previous reception into the system of the scarlatinous poison, which probably would have been without result in ordinary health, causes an outbreak of this malady. The following were cases of the kind alluded to, published in *Guy's Hospital Reports* for 1879, by H. G. House, M.S.:

On March 15, 1878, Mr. Jacobson performed osteotomy in Guy's Hospital upon a child suffering from extreme rachitis. The operation was followed by a moderate febrile movement (100° to 101°), and after three days by the appearance of a roseoloid rash with sore throat and the strawberry tongue. The operation was made under carbolic acid spray, with all the details of antiseptic treatment. The rash soon faded, the temperature fell, and the child temporarily separated from the other patients, from the suspicion that her disease was scarlet fever, was brought back to the ward. The skin desquamated, and on April 1st abundant albumen was found in her urine. The result was favorable. Three months previously the same operation had been performed on the other leg with no unfavorable symptoms.

On April 5, twenty-one days after the performance of this operation, a lipoma was removed from another patient, aged 21 years. The following day the temperature rose to 101°, and remained at that till April 8, when it suddenly increased to 103.6°, and a rose-rash occurred over the body, with sore throat. On April 9, Mr. House excised the elbow-joint of a girl of 16 years, having "pulpy disease;" on the 10th her temperature began to increase, and on the 11th reached 105.8°. Toward evening a roseoloid eruption occurred over her body. On April 12, Mr. H. excised a fibroid bursa patellæ from a woman of 29 years. On the following day her temperature was 99°, but on the 14th it rose to 100°, and on the evening of the 15th she had rigors and headache. On April 16 her temperature was 102.5°, and a roseoloid eruption occurred over the face and chest. The surgeons now perceived that an epidemic of the so-called surgical scarlatina was occurring so as to justify the postponement of other operations.

In the same volume, Mr. James F. Goodhart gives the histories of nearly thirty cases of this disease occurring during a series of years in Guy's Hospital. The patients were chiefly children having the most diverse surgical ailments; among which may be mentioned hip disease with abscess, genu-valgum without operation, necrosis of femur, hydrocele with explorative operation, a scald, a sinus over the great trochanter, spinal disease with abscess. In cases operated on the intervals between the operations and the occurrence of the efflorescence varied from two days to more than two weeks. Mr. Goodhart, after a careful examination of the records of these cases, formed the opinion that the disease was for the most part true scarlet fever, especially as a considerable proportion of them occurred in groups, and there was a known exposure of some of the patients to children admitted with the sequelæ of scarlet fever.

In the *British Med. Journ.*, January, 1879, Mr. George May, Jr., reported a case of surgical efflorescence, which appears to have been true scarlet fever.

A child was operated on for the radical cure of hernia on December 4th. Towards the close of the same day he became restless, vomited, and on the day following his pulse had risen to 136. Forty-eight hours after the operation a rash appeared on the chest and arms, the abdomen became tense and painful, and on the following day he died.

Those who have reported cases of this form of efflorescence have for the most part neglected to state whether the patients had had scarlet fever previously; an important omission, since the differential diagnosis is so difficult between septic and scarlatinous efflorescence; but there can be little doubt that surgical maladies of a certain kind, especially traumatism, do produce a state of system which predisposes to scarlet fever; so that this class of patients are very liable to contract this disease when exposed to the scarlatinous poison; therefore a considerable proportion of the reported cases of surgical scarlatina were apparently genuine examples of this disease, but in, I think, at least an equal number the efflorescence was not scarlatinous, but septic. Moreover, when consultations were held opinions were very apt to differ, some believing the disease septicæmia, others scarlatina. In certain of the cases it is stated that the fauces presented their normal appearance. Now, faucial redness may or may not occur in septicæmia, but I do not recollect ever finding it absent in scarlet fever. A normal state of the fauces, therefore, in surgical cases attended by efflorescence, shows that the rash has a septic, and not scarlatinous, cause. Again, when the rash appears irregularly upon the surface, and fades away in two or three days with abatement of the fever, and the conditions of septic absorption are present, the efflorescence is probably septicæmic.

There can be little doubt that the rash was septic in the following cases: A child of five years (*British Med. Journ.*, February 15, 1879) had inflammation of the lymphatic glands in the groin, which suppurated. At the time when the abscess was fully developed, a rash appeared over the entire body paler than that of ordinary scarlet fever. It consisted of red points with pale spaces between them: temperature never above 99°, no sore-throat, nor desquamation of cuticle. Her sickness could not be traced to any exposure, and no child exposed to her contracted scarlatina. In the *British Med. Journal*, January 4, 1879, Mr. J. Braxton Hicks relates the case of his son, who, while attending school at Reading, was seized with a severe attack of pyrexia, accompanied on the second day by delirium and the occurrence of a rash like scarlet fever over the entire surface. He had no decided redness of the fauces, though they were perhaps slightly flushed. The right buttock was swollen from inflammation, and a large deep abscess formed near the tuberosity of the ischium. When the delirium abated the boy stated that he was standing the day before the fever began with his legs far apart, when a school-fellow stretched them farther, by suddenly pulling upon one of them. The rash, which was nearly universal, lasted three days, and disappeared without desquamation. No case of scarlet fever occurred in the school before or afterwards. In the same volume of the *British Med. Journ.*, Surgeon Froliott, of the East India service, relates the case of a private, aged 23 years, and three years in India, who, when on duty in the Punjab, was severely injured by the explosion of an Afghan powder magazine. The accident occurred December 21, 1878. On December 25th a bright scarlet rash appeared upon the abdomen and spread over the entire body. On the following day the eruption was very vivid like a boiled lobster and lasted for five days. The temperature, which at the beginning had been 101°, abated to the normal after the rash appeared, no soreness of the

throat nor redness of the buccal surfaces occurred, but the cuticle desquamated even from the palms of the hands and soles of the feet.

Scarlet fever is so rare in India that, after twelve years' service, Surgeon F. had not heard of one case among the resident Europeans or natives, and no case had occurred among the troops. We may, therefore, I think, safely conclude from the examination of published cases that certain forms of surgical disease, especially traumatism, do predispose to scarlet fever both in children and adults, so that if they happen to receive the contagium of this malady from some exposure to it, they are more likely to suffer from an outbreak of scarlatina than when in a previously healthy state. On the other hand, a sufficient number of cases in medical literature establish the fact that a scarlatiniform efflorescence of a septicæmic nature occasionally occurs in surgical patients sustaining no relationship with scarlet fever, and probably this form of efflorescence is as common as the scarlatinous in surgical diseases. These remarks are also applicable to obstetrical as well as surgical patients. Women after parturition appear to return to the state of childhood as regards liability to contract certain diseases, among which we may mention scarlet fever, so that it behooves the physician to be cautious, if he be engaged in midwifery practice while attending scarlet fever, that he do not communicate this disease to his lying-in patients. In the latter part of May, of the present year, a woman was admitted into the waiting-room connected with the maternity wards of the New York Infant Asylum from a family where scarlet fever was prevailing. On May 28th a primipara, who occupied a cot near her, was removed into the maternity wards and gave birth to a child. She was feverish from the time of her confinement, and on the third day the scarlatinous rash appeared over her entire body. On the sixth day it faded, and was followed by desquamation. She had some redness of the fauces. A similar case occurred recently in the New York Nursery and Child's Hospital. But a rash of a scarlatinous appearance occurring three or four days after parturition, while it may be due to scarlet fever, is more apt, I think, to have a septicæmic cause, resulting from decomposition of a blood-clot or a fragment of placenta. The following was a case in point, which came under my notice: Mrs. —, aged 22 years, gave birth to her second child after normal labor on March 21, 1882. On March 23 she was restless, and complained of pain in both iliac regions; temperature in mouth 103½°; pulse 132; no cough. She was ordered quinia in 5 gr. doses, and salicylate of sodium in 15 gr. doses every four hours, with a pill containing one grain of opium and two of camphor between the doses. On March 25, a rash, like that of scarlet fever, appeared over her hands, forearms, hips, entire back, and the lower extremities as far as the knees; temperature 102°. March 27, morning temperature 101¼°; evening temperature under tongue 104°; efflorescence over entire body except the face. The rash abated in a few days, the temperature fell, and convalescence seemed established. She had begun to sit in an easy chair, when, about two weeks after her confinement, on making an unusual exertion, she suddenly became faint, and expired before the physician could arrive. Possibly the efflorescence was due to the medicine, but it seems more probable that it was septic. That it was in all probability not scarlatinous, we may infer from the absence of faucial symptoms, and from the fact that the older child of the patient, aged two years, constantly exposed to her, did not contract scarlet fever.

Sometimes it is not difficult to make the differential diagnosis from the symptoms alone, between the rash of septic and that of scarlatinous blood poisoning, as

in the case of traumatism in India which I have related; in this case the fever abated while the rash was distinct and full, which is never the case with scarlet fever.

It will be necessary for want of time, after these general remarks, to postpone till next week the consideration of certain subjects which the case before us suggests, one of the most interesting of which is the complication of scarlet fever by diphtheria. These two maladies coexisted in the patient whose history you have heard, and whose viscera you have had an opportunity to inspect at the autopsy.

## ORIGINAL ARTICLES.

### IS TUBERCULOSIS A PARASITIC DISEASE?

#### SECOND PAPER.

BY GEORGE M. STERNBERG, M.D.,  
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DOUBTLESS many of those who have read Koch's report of his experimental inquiry, or the full abstracts of the same which have appeared in *THE MEDICAL NEWS* and the *American Journal of the Medical Sciences*, are of the opinion that the question which serves as a title for my paper, is already answered in the affirmative. Certainly the evidence as presented seems very convincing. But, as pointed out in my first paper, independent confirmation is especially necessary in this disease because tuberculosis, or at least a pseudo-tuberculosis not easily distinguished from the genuine, may be produced in rabbits and in Guinea-pigs by inoculating them with *non-tubercular* material; and because competent observers, Klebs, Toussaint, who have undertaken similar investigations, have announced the discovery of organisms in tubercular neoplasms which differ morphologically from the bacillus of Koch.

Negative evidence is rarely published, as it does not directly promote the advancement of science, and but little credit is to be gained by the investigator who has only negative results to record. They have, however, their value when the search has been thorough and conscientious, and it would be well if they were more generally published. The writer, although long since a convert to the germ-theory on theoretical grounds, has several times found himself compelled to report negative results where he had looked with considerable confidence for a discovery or for confirmation of a discovery already announced. At the present writing the same is true as regards the bacillus of tuberculosis, and although my observations are not sufficiently numerous to have great weight as opposed to the facts reported by Koch, they have a certain value, inasmuch as they show that *the bacillus is not present in all cases of tuberculosis*; and because they indicate a possibility of error on the part of observers not accustomed to the study of bacterial organisms and to the use of high powers, who may attempt to verify the discovery of Koch. This possibility arises from the fact that in preparations made strictly in accordance with Koch's method, the contour of the nuclei of cells often simulates so closely the appearance of bacilli contained in the

cell, that it requires an experienced eye and careful focusing to detect the deception, and to the further fact that Koch's staining fluid is a medium in which bacteria may develop abundantly. This I discovered accidentally by leaving a thin section of lung (from a fragment preserved in alcohol) for several days in a shallow covered vessel immersed in the aniline blue solution prepared according to Koch's formula. Upon examining the section at the expiration of this time, I found that it was surrounded by a multitude of bacteria of various forms, including bacilli, that answered very well so far as form is concerned to the description given by Koch of his bacilli of tuberculosis, but which did not correspond with these in retaining their blue color when treated with visuvine. That these were developed in the staining fluid was proved by the fact that they were found in abundance upon the bottom of the porcelain dish in which this was contained, and that other sections from the same dish previously examined (after twenty-four hours immersion in the fluid) were quite free from bacteria. There is nothing surprising in the development of a variety of bacterial organisms in a slightly alkaline fluid containing fragments of animal tissue, and, *a priori*, it would hardly be expected that an alcoholic solution of methylene blue in the proportion of one-half per cent. would prevent such development. As, however, this development did not occur within twenty-four hours, the time given by Koch for the staining process, it may be that no mistakes are likely to arise from this source. On the other hand, the possibility of such a mistake should be borne in mind, especially in climates where, owing to a higher temperature, a more rapid development of bacteria would be likely to occur. My own accidental experiment was made at a time when the thermometer ranged constantly below 60° Fah., and has since been repeated with a like result.

Lest it may be thought from what I have already said, and from what follows, that I am attempting to bring discredit upon the *observations* of Koch, I desire to say that I have the greatest respect for the scientific acumen and technical skill which he has displayed in this and in previous investigations, and cannot doubt that he has seen what he describes, and has faithfully reported his observations. Believing this, I look for confirmation later when I obtain *the right kind of material*; for, from a review of the experimental evidence relating to tuberculosis, I am inclined to think that we will find eventually that there are two forms distinguished by the presence or absence of parasitic organisms, and by being infectious or non-infectious as the result of this circumstance.

The main object of, and it may be the only excuse for, the present paper, is to point out the necessity of exercising a spirit of scientific conservatism in judging of the value of the experimental evidence which is now being offered from many quarters in favor of the germ-theory of disease; and in view of the importance of the subject, I will perhaps be pardoned for making a slight digression before recording the results of my observations as regards tuberculosis.



We are in even greater danger of being misled by the statements of those who claim to confirm, or by a second-hand report of experimental researches, than by the detailed report of an original investigation; for, in the latter case, the author generally gives a minute account of his methods and observations, while in the former we often have only the bare announcement without any data from which we can judge of the skill and care exercised by the one who confirms. And, in second-hand reports it unfortunately sometimes occurs that more is claimed than the original investigator felt justified in claiming, and where he had exercised a proper conservatism, his reporter may not only fail entirely in doing so, but may misquote the facts which he has recorded. Thus, in a recent address before the American Medical Association, I find the following statement:

"In 1879, Prof. Tommasi-Crudeli, of Rome, and Prof. Klebs discovered a parasite in the soil of malarious districts. The parasite was never found where malaria is unknown. The parasites were invariably found in the blood of persons suffering from malarial disease, but never in those free from such disease. Blood drawn from the veins of persons affected with malaria, and injected into the subcutaneous tissues of dogs, reproduces the disease in these animals."

All this seems very definite and conclusive, but in the original report of Klebs and Tommasi-Crudeli, I do not find a word about their having found the parasite in the blood of persons suffering from malarial disease, nor any record of experiments in which blood drawn from the veins of persons affected with malaria, and injected into the subcutaneous tissues of dogs, reproduced the disease in these animals. On the other hand, their experiments were made upon rabbits, and their announcement of the discovery of a *bacillus malariae* rested entirely upon these experiments. It is true that Cuboni and Marchiafara subsequently announced the discovery of similar bacilli in the blood of man, but who has confirmed Cuboni and Marchiafara? The three cases of pernicious fever, in which the last-named gentleman found bacilli in the blood, the lymph, the spleen, and the marrow of the bones cannot count for much, in the absence of evidence showing that these could not have been developed *post-mortem*, for it must be borne in mind that in the latitude of Rome the development in the blood and tissues of a variety of bacterial organisms which habitually infest the alimentary canal, occurs very shortly after death, while in Catholic countries it is usually difficult to obtain an early post-mortem examination.

Malarial fevers prevail so extensively, and so many physicians are provided with microscopes, that it would seem as if the bacillus of Klebs and Tommasi-Crudeli should now be pretty well known to the profession, not only by report, but also by personal inspection, if it is truly the cause of malarial infection. As time passes this negative unrecorded evidence must acquire a constantly increasing value, for we can scarcely doubt that positive confirmatory results would be promptly heralded in

the medical journals. But in addition to these inferred unrecorded results, we have the fact, in the case of malarial fever, that several other observers have described a different organism believed by them to bear the identical relation to the etiology of malarial fever ascribed by Klebs and Tommasi-Crudeli to their bacillus. The inference is evidently legitimate that these observers have not seen the bacillus in the course of their more or less extended investigations. Thus Laveran<sup>1</sup> describes an amoeba-like organism, called by him *Oscillaria malariae*, found only in the blood of malarial fever patients, and Richard,<sup>2</sup> in a recent communication to the French Academy, confirms this discovery.

It is not my object at present to weigh the evidence for or against either of these alleged discoveries, but simply to point out that each observer furnishes negative evidence which must be taken into account in considering the claims of the other. I may say, however, that in this case it is easier to believe that Klebs and others—myself among the number—have overlooked a parasite resembling so closely the leucocytes of healthy blood, as does that described by Laveran, than that Laveran, Roberts, Sternberg, and many others have overlooked an organism in the blood as easy of detection as the bacillus of Klebs and Tommasi should be from their description of it.

This argument does not apply with the same force to the bacillus of Koch, for according to his account a special method of staining is necessary in order to demonstrate it. We are not, therefore, justified in assuming the absence of this bacillus in the numerous preparations examined by Toussaint, for example, who has been for some time engaged in similar investigations. But what shall we say of the failure of Koch to find, or at least to describe, the micrococcus of Toussaint? The last-named observer has spent much time in the study of infectious diseases, and enjoys an excellent scientific reputation; it would, therefore, be difficult to say that the recorded observations of one or the other of these *savants* are worthy of the greater credence. All that we can say is, wait and see. Koch has fully described his method; there is no lack of observers competent to apply it, and material is abundant, so that the case of *bacillus tuberculosis* having been brought to trial in open court, we may confidently anticipate a verdict within a reasonable time. As already indicated, the object of the digression which I have permitted myself to make has been to impress upon the jury the importance of caution and scientific conservatism in weighing the evidence.

The material which I have thus far examined has come from the City Hospital, San Francisco, and has been furnished me by my friend, Prof. Hirschfelder, to whom I am also indebted for a supply of methyl blue and of visuvine. This material consists of samples of sputum from four consumptive patients in Dr. Hirschfelder's wards, obtained May 25, and two additional samples, obtained May 30; a fragment of lung, studded with tubercular nodules—

<sup>1</sup> Description of a new parasite found in the blood of patients attacked with malarial fever. Baillière and Fils, Paris, 1881.

<sup>2</sup> Comptes Rendu, Acad. des Sciences, xciv. p. 496.



cheesy—and including a portion of the walls of a cavity, obtained June 2, and a similar specimen from a second case, obtained June 19. In both of these specimens, and especially in the second, many of the cheesy masses had a dark color, due to the presence of innumerable amorphous granules (carbon?), which were opaque, and varied in size from that of the smallest micrococcus to angular or rounded fragments, one-fifth the diameter of a red blood-corpuscle. These specimens were obtained from the dead-house, and were not accompanied with histories of the cases, which were not from Dr. Hirschfelder's wards.

The samples of sputum obtained May 25, were examined the same day, with the following result: The examination was made with a Spencer's  $\frac{1}{16}$ -inch and a Zeiss'  $\frac{1}{8}$ -inch homogeneous immersion objective. The last-named objective, with a Tolles's amplifier in the tube of the microscope, and a medium ocular, gave me an amplification of 1500 diameters, with admirable definition. Illumination was effected by the use of a  $\frac{1}{16}$ -inch objective of Zeiss as an achromatic condenser, and the observations were mostly made by daylight.

Not having yet been able to procure a supply of visuvine, I could not apply Koch's test for the tubercular bacilli to the samples of sputum first examined; but as the specimens were stained with methyl blue, the bacilli should have been seen if present.

**Results of Examination.**—Specimen No. 1 contains numerous fatty pus-cells, much free granular matter, elastic fibres from disorganized lung tissue, a few red blood-corpuscles, rod-bacteria (*B. termo*), and micrococci in pairs, in chains, and in groups of four. No. 2 contains numerous pus-cells, the nuclei deeply stained with the methyl blue, and rod-bacteria solitary and in zoöglæa masses. No. 3 contains great numbers of micrococci in chains and in zoöglæa masses, and a few rod-bacteria. No. 4 contains fatty pus-cells, granular matter and numerous bacilli. This preliminary examination showed me that the sputa of consumptives contains in abundance the bacteria which constantly infect the healthy human mouth; but I was not able to recognize any form with which I was not already familiar, and the bacilli, bacteria, and micrococci referred to in my notes correspond morphologically with those shown in my photo-micrographs (Figs. 3, 4, and 6, plate xii.), which illustrate a paper read last summer before the American Association for Advancement of Science, and published in "Studies from the Biological Laboratory of Johns Hopkins University."<sup>1</sup>

Not having recognized Koch's bacillus among the familiar forms present in these samples of sputum, I requested Dr. Hirschfelder to obtain for me some additional samples, collected with special care, the patient being requested to discharge the material coughed up from the lungs into a clean, wide-mouthed bottle, endeavoring, as far as possible, to exclude the buccal secretions.

It is evident that no amount of care can entirely prevent the inoculation of such a mass from the lungs by the bacterial organisms constantly present in the mouth, and but little time would be required for the multiplication of these to such an extent that the whole mass would be infected. This, and the further possibility that multiplication of the organisms contained in the specimen may occur in the staining fluid, should be borne in mind by those who examine sputa with a view to confirming Koch's discovery. The last-named source of error will, however, probably be avoided if Koch's method is strictly followed, and the thin layer of material attached to a cover-glass is exposed to a temperature of 120° to 130° C. for from two to ten minutes.

**Examination of Sputa obtained May 30.**—Sample No. 1 contains an abundance of pus-cells, a few red blood-corpuscles, epithelium from the mouth and numerous bacteria—micrococci and bacilli—like those found in normal saliva. No. 2 contains pus-cells, epithelium from the mouth, *Bacterium termo*, *Leptothrix buccalis*, micrococci in chains and zoöglæa masses, and bacilli, all similar to those heretofore described. Having obtained a supply of visuvine, staining by Koch's method was carefully and repeatedly tried, but without result, so far as the demonstration of his bacilli was concerned. I also made numerous experiments to ascertain whether any of the bacteria present in normal saliva would retain the blue color given by the methyl blue staining solution when treated with visuvine. The result was negative, but I must again warn the novice that there is liability to error in the application of this test, as bacilli and other forms of bacteria deeply stained by the visuvine appear blue when a little out of focus, and inexperience in observing these minute objects, a lively imagination, or defective color sense, might lead to mistake. Especially is this liable to occur if one not skilled in the use of the microscope attempts to follow the directions given by Koch with reference to illumination, in his work on "Traumatic Infectious Diseases." According to this method, stained bacteria are to be distinguished in the tissues by moving the achromatic condenser forward, past the point where the best definition is secured, so as to obtain a color-picture, the details of structure being obscured by this procedure, while colored objects are brought out in strong relief. Having already been more prolix than I at first intended, I will cut this paper short by saying that I have made numerous sections from the two specimens of tuberculous lungs obtained for me by Dr. Hirschfelder, that I have stained and mounted these according to Koch's directions, and have carefully examined them without having been able to find Koch's bacilli.

It is too soon to know the result of my inoculation experiments in rabbits, but these will be duly reported when completed, together with any additional observations which I may have the opportunity of making upon fresh material.

<sup>1</sup> A contribution to the study of the bacterial organisms commonly found upon exposed mucous surfaces and in the alimentary canal of healthy individuals. *Z. c.*, vol. ii., No. 2, pp. 157-181.

## THE ACTION OF ERGOT IN A CASE OF DIABETES MELLITUS.

By E. F. TIEDEMANN, M.D.,  
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SHORTLY after reading Prof. Da Costa's article in *THE MEDICAL NEWS* of January 7th, on the ergot treatment of diabetes insipidus, a case of diabetes mellitus came under my care; and then the thought entered my mind that ergot might be beneficial in the latter as well as in the former disease. The case was a desperate one, and I determined to make the experiment. The result was so surprisingly good that I am induced to think the case worthy of publication, and hope that ergot may be tried by others and its true value in diabetes mellitus established. I think it very probable that many cases of diabetes go on unrecognized for a long time, especially in cases occurring in the less intelligent classes; and for this reason I give the history of the case in detail.

On Jan. 31st, the wife of a farmer came to me to get medicine for her husband, J. S., a German, aged 54. From her statements I judged the case to be one of malarial intoxication, with gastric and hepatic disturbance, and prescribed accordingly.

On Feb. 1st, I was called to see him, as he had not improved. I found him in bed, pale and emaciated, and in a very weak condition. Though a man of the average intelligence of his class, he appeared dull, and I had considerable difficulty in obtaining his history. He has never been sick, with the exception of long-continued malarial fever in the years 1876-'78. Some few months ago he began to feel weak in his legs, was easily tired, had a ravenous appetite, but felt no pain or other inconvenience. Complaints chiefly of great weakness, thirst, bad taste in his mouth, which is dry; his gums bleed easily. Tongue fissured; red and dry at the tip and edges, thickly covered with a yellowish fur posteriorly. His appetite is failing, he has eructations from his stomach, has vomited once to-day, for the first time, and has other dyspeptic symptoms; his bowels are constipated. Skin pale, cool, and dry; suffers much from itching, especially on his thighs, legs, and back; states that some slight bruises and scratches on his hand suppurated, extended considerably, and were a long time in healing. Has no pain in his back, nor tenderness on pressure there; states that his urine is "quite clear." Unfortunately, I forgot to ask him about the quantity of urine passed. A careful physical examination did not reveal disease anywhere. He did not volunteer any information, and his mental processes seemed to be carried on slowly. I was not at all satisfied as to the nature of his disease, producing so much exhaustion. His pulse was 76, moderately strong and regular.

Knowing that for some time he had been living on salt pork and other coarse food, I directed a light diet, with plenty of milk, and gave him a purgative and some bismuth and pepsin. I asked to be informed of his condition next day.

February 2.—His wife informed me in the morning that he had been constantly growing weaker

since I saw him, and was worse in every respect. I put several questions to her, and, suspecting Bright's disease, asked how much water he passed. I was astonished to hear that he would rise as often as eight times a night to urinate; that an ordinary chamber-vessel not being large enough to hold the amount, he used a bucket holding two gallons, which was always about half full when emptied in the morning. When I asked her why she had not told me that before, she said she thought it was quite natural, as he drank water every time he rose, sometimes as much as a quart at a time. I asked her to measure carefully the amount he passed after she returned home, and to send me a specimen.

3d.—The amount of urine passed in twenty-one hours was *eighteen pints*, which would be over *twenty pints* in twenty-four hours. The urine is pale, of a greenish-yellow hue, semi-transparent. The specimen examined was taken from the whole amount passed, had a sp. gr. of 1034, and contained sugar in great amount. He was by this time in an alarmingly weak condition, brought about to some extent, no doubt, by the milk I had ordered. I put him immediately on half-drachm doses of fluid extract of ergot, with 15 grains salicylic acid, 20 grains sodium bicarbonate, and 10 minims of tr. opii, every four hours, and ordered the usual strict diet of proteids and fats.

4th.—The result of this treatment far exceeded my expectations. After he had taken four doses the amount of urine passed in twenty-four hours had fallen from *twenty* to *eight pints*. His thirst was lessened very much, he had risen but three times during the night to urinate, and felt stronger. I had feared that the specific gravity would rise very much, and was surprised to find that it was only 1036.

I now ascertained that he had been feeling weak since last fall, about September; that the thirst and feeling of weariness came on gradually and increased slowly. He stated that for some months he had been troubled with occasional numbness of his legs, and formication, a feeling, as he expressed it, of bugs and ants crawling on his legs. His sight had become much less acute, and his memory was failing. His gait was uncertain, especially in the dark or when rising from a lying position. There is no history of syphilis, traumatism, sudden nervous shock, or mental strain. He had never heard of such a disease, his parents lived to be quite old, and he has three brothers living older than himself. He had since early fall been drinking great quantities of cider, and when his excessive thirst commenced he probably drank still more. This habit is mentioned by Niemeyer as one of the alleged causes of diabetes mellitus.

The above-mentioned nervous phenomena were the only ones I could ascertain, and they led me to consider the disease in his case to be of nervous origin. He had never suffered from neuralgia or disturbed action of the heart; I could find no symptoms referable to vaso-motor disturbance such as flushes of heat or cold, cold feet, etc. The numbness, formication, and weary feeling, were equally severe on both sides of the body. He did not feel

any soreness in the muscles of his legs, but it was probably present and included in the word "weariness;" he is not very sensitive to pain.

5th.—Passed six pints of urine. Increased dose of ergot to one drachm every four hours. Rises but once during the night, and is gaining strength; sleeps well; bad taste in mouth disappearing; itching and formication much less.

7th.—Five and a half pints; patient is out of bed the greater part of the day.

8th.—Six pints, sp. gr. 1033. He had not eaten any sugar-producing food, with the exception of a very small piece of bread at his meals, and yet the sugar was present in almost the same proportion as the day after he ceased eating farinaceous food, showing that the disease had reached the stage when sugar is manufactured of animal food. The constipation is very obstinate, and is only overcome by large doses of salts.

12th.—Urine six pints, of sp. gr. 1032. Owing to continued constipation, I discontinued the opium and substituted potassium bromide with a few grains of potass. iodide.

15th.—Five and a half pints, sp. gr. 1038. Is feeling worse, complains of sweet taste in his mouth again, and has more thirst. Added opium again.

17th.—Four pints, sp. gr. 1034.

18th.—The daily amount of urine has fallen to two pints, sp. gr. 1039. I attributed this fall to the ergot, and directed all medicine stopped for twelve hours, and afterwards directed it to only be taken three times a day.

19th.—Three pints.

21st.—Five pints, sp. gr. 1033.

22d.—After eating farinaceous food, amount of urine rose to six pints, sp. gr. 1038. Patient found very soon that farinaceous food was harmful to him, increasing his thirst and producing a sweetish taste in his mouth.

March 2d.—Five pints, sp. gr. 1030. Patient walked to my office, a distance of two miles, with ease. General condition very much improved, appetite good, feels quite well, and is gaining flesh and strength. Reduced ergot to 30 minims thrice daily, and substituted  $\frac{1}{2}$  grain codeia for the opium; discontinued sodium salicylate entirely, but continued the alkali in 10 grain doses, three times a day.

6th.—Four pints, sp. gr. 1032. Directed cod-liver oil, and  $\frac{1}{2}$  gr. phosphorus with each dose; increased codeia to gr. j, three times a day.

26th.—Five pints, sp. gr. 1027. Discontinued phosphorus.

April 6th.—Patient can work as well as formerly, and has no inconvenience. Sp. gr. varies from 1027 to 1030. Eats bread at every meal. Bowels regular, moving daily. His appetite continues very good. Takes the medicine but twice daily, and sometimes even goes without it for several days. On this account, increased ergot to 45 minims, and ordered in addition strychnia, iron, and quinia.

13th.—Patient continues well, doing hard work, as ploughing, hauling wood, etc., daily. The feeling of weakness in his legs is much diminished.

The itching and the nervous symptoms are all gone. His sight has improved.

Of course, I do not claim that he is cured; I doubt if the disease is ever cured when it reaches the later stage. But to keep the disease in check, and prevent the excessive formation of sugar, ergot, I think, will in some cases be a useful means, especially when combined with opium, or, better, codeia.

What the lesion is in this case, I do not know; but it is probably one affecting, primarily or secondarily, a portion of the cerebellum and fourth ventricle. It is difficult to conceive how disease in the medulla oblongata can exist *primarily* and involve *only* the vaso-motor centre, or even only those portions that are known as the diabetic and the polyuric centres. And again it is supposed that the diabetic centre alone can be involved, or the polyuric alone. We meet diabetes mellitus without polyuria, diabetes insipidus without glycosuria, and finally, as in the foregoing case, diabetes mellitus with enormous polyuria, apparently a mixture of the two diseases, or rather a disease—whether actually situated in the floor of the fourth ventricle, or occupying some other spot connected with it—that affects both centres.

Da Costa thinks that the remedial action of ergot, in his cases of diabetes insipidus, consisted in capillary contraction in the nervous centres, meaning—as I take it—that portion of the fourth ventricle, irritation of which produces polyuria. It seems reasonable to expect that in cases of diabetes mellitus of nervous origin, excepting, of course, tumors or destructive changes, ergot might be successful in some cases of diabetes mellitus, as well as in diabetes insipidus. I think that my case is at least another confirmation of Da Costa's results.

The sudden fall from twenty to eight pints in twenty-four hours cannot be attributed to anything but the ergot and modified diet, and, in part, to the opium. The fall from eight to four, and even two, pints in two weeks, can, I think, be attributed *only* to the ergot, as he was under the modified diet all the time.

I do not think that the sodium salicylate produced any benefit, for when left off, after four weeks' use, improvement went on steadily, which was not the case when the opium or the ergot was withheld. The good results claimed by many observers to have followed the use of salicylic acid, suggest the thought to me that there may be a class of cases of diabetes mellitus in which a process of fermentation is going on excessively somewhere. The fact that other fermentation-checking drugs, as carbolic acid, creasote, iodine, quinia, lactic acid, and glycerine, have been highly recommended by many authorities, may lend some little support to this idea.

The opium was undoubtedly of great benefit, not only in allaying thirst, but in checking the production of sugar. This is shown by the observation that the specific gravity rose from 1032 to 1038 when the opium was withheld. He eat no more bread in these days than previously. The rise of the specific gravity to 1039, when the urine fell to two pints, can be explained by the great concentration.

Some of the nervous symptoms observed reminded



me of locomotor ataxia, with which, indeed, as regards progressiveness, diabetes has been compared. But the inco-ordination observed was probably due to trouble in the cerebellum, which is supposed to be a great factor in co-ordination, and *polyuria* is mentioned (Eckhard) as the result of injury to the cerebellum.

The effect of eating sugar in increasing thirst, and consequently augmenting the amount of urine, is of interest. It is observed in healthy persons eating large quantities of sugar. It shows that in diabetes mellitus there is, besides the frequent implication of the polyuric centre, another factor aiding to bring on polyuria. In the first case, the thirst is due to large losses of water; in the second, the sugar in the blood causes increased absorption of water from the tissues.

A rough estimate of the solids contained in the daily quantities of urine mentioned in the history of the case, and the comparison of these amounts with the quantities of urine in which they were contained, shows plainly that the more urine was voided, the greater was the loss of solids, consisting chiefly of sugar and urea. From this fact we can deduce a lesson of great practical value—if we can lessen the polyuria, we can lessen the loss of sugar proportionately. It also teaches us to restrict the amount of fluids consumed by the patient as much as possible. And I infer from this fact that the value of ergot in diabetes mellitus consists chiefly, if not entirely, in controlling the polyuria that accompanies it. In cases of diabetes mellitus without polyuria ergot is probably of no great benefit. And now arises the question, why is the amount of sugar voided in proportion to the amount of urine passed? There appears to be a mutual interaction, the sugar in the blood increases its watery portion, and the increased amount of the latter augments the discharge of sugar.

From the following table it is easily seen that the more urine was voided the greater was the loss of solids. The figures obtained to show the amount of solids represent only a very rough estimate, obtained by multiplying the last two figures of the specific gravity by 2.33, to get the amount of solids in 1000 parts of urine (Wickham Legg), and calculating from this the average in a pint, and the whole amount passed in the day. The increased production of urea should be remembered.

Date.	Amount.	Specific Gravity.	Average in pint.	Total amount in 24 hours.
Feb'y 3,	20 pints.	1034.	600 grains.	12,000 grains.
" 4,	8 "	1036.	638 "	5,100 "
" 8,	6 "	1033.	585 "	3,500 "
" 12,	6 "	1032.	567 "	3,400 "
" 15,	5½ "	1038.	673 "	3,700 "
" 17,	4 "	1034.	600 "	2,400 "
" 18,	2 "	1039.	692 "	1,384 "
" 21,	5 "	1033.	585 "	2,925 "
March 2,	5 "	1030.	532 "	2,660 "
" 6,	4 "	1032.	567 "	2,268 "
" 26,	5 "	1027.	490 "	2,450 "

P. S.—July 3. The patient continues to do well; and has done very hard work during harvest, the weather being unusually hot and sultry.

## MEDICAL PROGRESS.

**COMPLETE INVERSION OF THE VAGINA.**—A non-pregnant woman was recently admitted at the obstetric clinic of PROF. BRAUN, suffering from complete inversion of long standing. At first it was unaccompanied by pain, but later the painful sensations and interference with urination showed that there was also a prolapse of the bladder, proved by the backward and downward direction taken by the catheter; the rectum occupied its normal position. The uterus was not displaced, and the uterine sound could be introduced for a depth of about six inches; the cervix was elongated. Ordinarily such displacements of the female genital organs are due either to great weight of the uterus or relaxation or laceration of the perineum, or both combined; in this case the elongated cervix supplied the abnormal weight. Treatment may consist either in restitution and retention with pessaries, or may require an operation. In Prof. Braun's case a portion of the cervix and vaginal wall was excised and the edge brought together with stitches, and the rent in the perineum freshened and sewed up; the vagina was then tamponed with iodoform cotton.—*All. Wiener Med. Zeit.*, May 16, 1882.

**THE ACTION OF CARBOLIC ACID ON FEVER PATIENTS.**—DR. VAN OYE's thesis, published at Paris in 1881, contains the following conclusions on this subject (*Journ. de Thérap.*, 10th February, 1882). Carbolic acid is a poison of the nervous system, and possesses in the highest degree the property of lowering the temperature of man and the higher animals. Doses of carbolic acid, without appreciable action on the normal temperature, are sufficient to lower the febrile temperature. This lowering is produced in febrile patients whether suffering from simple inflammation, or from infectious pyrexia. It commences very soon after the absorption of the medicine, and its extent varies, according to the dose, from one to three degrees, and its duration from one to three hours. Its probable cause is the loss of heat resulting from the cutaneous hyperæmia, and the more or less abundant sweats which coincide with its production. A rigor and all the phenomena of the febrile state supervene, when the antipyretic action of the preceding dose is exhausted. At the same time the temperature rises suddenly to its original level, and even above it. A new dose may interrupt this attack, and even prevent it if the medicine be administered in time. Doses which are sufficient to produce the entire useful antipyretic effect do not exercise any injurious toxic action on a fever patient. Fifty centigrammes administered by the rectum are sufficient in all cases at the outset. As a rule, doses of two grammes may be gradually reached. One gramme given at once has, in some patients of special susceptibility, been sufficient to produce a lowering of temperature to the extent of 34.5° Cent. (94.1° Fahr.). This exaggerated depression has not in any case been injurious to the patient. Pulmonary congestion is a danger to be feared and avoided in the use of carbolic acid. Dr. Van Oye has pointed out albuminuria, polyuria, and fatty degeneration, as the possible effect of long doses greatly prolonged. The antipyretic properties of carbolic acid should, the author says, be reserved to overcome high temperature in continued fever, and to prevent the paroxysms in intermittent fever.—*London Medical Record*, June 15, 1882.

**CONGENITAL MALFORMATION OF THE RIGHT KIDNEY.**—MR. POWELL gives the following account of a necropsy made at the Nottingham Borough Asylum. The subject of the post-mortem was a man aged forty-

five years, who had been a patient in this asylum for little more than a year, suffering from melancholia. His death was due to atrophy of the brain, and had no connection with the abnormality. All the abdominal organs were in their normal positions except the right kidney, which was found lying on the bodies of the fourth and last lumbar vertebrae, as nearly as possible in the median line, and covering the upper part of the common iliac vessels and bifurcation of the aorta. The organ was smaller than was natural, and of an irregularly rounded shape anteriorly, but concave posteriorly and fitting on to the bodies of the vertebrae. At its upper extremity and to the left it was joined to the lower end of the left kidney, which was normal in size and shape, except that the lower end was somewhat elongated and pulled forward. On the anterior aspect of the abnormally placed organ was a fissure running obliquely downwards from left to right, and in this lay the ureter, which passed down in front of the iliac vessels and entered the bladder in its normal position. The right renal artery was derived from the aorta an inch above its bifurcation, and entered the kidney at the upper extremity of the fissure above alluded to. Three smaller arteries springing from the right common iliac also entered the kidney posteriorly. The left kidney had its own ureter, which passed down beneath the junction of the two kidneys on its way to the bladder. The right supra-renal capsule was in its normal position, and consequently some distance away from the kidney. The tissue of both kidneys had to the naked eye a healthy appearance.—*Lancet*, June 24, 1882.

**INFECTIOUSNESS OF TUBERCLE.**—M. GIBOUX has made some new experiments which confirm his results recently presented to the Académie des Sciences as to the noxiousness of the expired air of phthisical patients. Placing in two cages young rabbits of the same litter, from perfectly healthy parents, as shown by post-mortem examination, he caused them to respire daily for two or three months twenty to twenty-five litres of expired air from persons in the second and third stages of phthisis, passing, in one case, the air first through cotton wool. The animals which were thus protected by the cotton wool preserved their health, as shown by autopsy, during the entire course of the experiment; while the animals which inspired the infected air directly soon lost their appetite, suffered from diarrhoea, became emaciated, and after death tubercles were found in the liver, spleen, and apex of the lungs.—*Revue Scientifique*, June 3, 1882.

**RECOVERY FROM HYDROPHOBIA.**—A case of recovery from an attack of hydrophobia was related to the Académie de Médecine at the meeting of June 13, by M. G. DENIS-DUMONT, of Caen. The patient was a man, thirty-eight years of age, of strong constitution and previous good health, who was bitten on April 16 on the forearm by a rabid dog, which had bitten, the same day, a woman and two children. The woman died of hydrophobia on May 20, and the news of the death profoundly impressed the patient, who became restless, anxious, affected with extraordinary thirst, and complained of sore throat and of difficulty in swallowing. He refused all drink which was offered to him, manifested a tendency to bite persons and objects around him, and presented convulsive attacks of the character so frequently met with in hydrophobia. He was taken to the hospital on May 23, and none of the medical men in attendance had any doubt that he was suffering from hydrophobia. The treatment employed consisted in hypodermic injections of a centigramme of pilocarpine, which caused an abundant diaphoresis and salivation. At the same time a draught was given of two

drachms of bromide of potassium, four drachms of chloral hydrate, and an ounce of syrup of codeia (whether at a single dose or in divided doses the report does not state). The symptoms presented a rapid amelioration, and on the 30th of May had entirely ceased. It seems open to question whether or no the case was one of genuine hydrophobia. When the symptoms commence with mental disturbance, distinctly excited by such intense apprehension of the disease as is excited by the news of the death of another person bitten at the same time, the case cannot be regarded as affording conclusive evidence on the therapeutical question. M. Bouley, however, announced his intention of communicating to the Académie at the next meeting another case of hydrophobia in which recovery followed the use of pilocarpine.—*Lancet*, June 24, 1882.

**ALBUMINURIA AFTER EXTERNAL APPLICATIONS OF TAR AND IODINE.**—DR. JACUBASCH (*Charité-Annalen*) found that after having made applications of a tarvaselin (picis liq., one part; vaseline, ten parts), to a child seven years old for eczema, albuminuria appeared, and continued for seven days after discontinuance of the applications. On repeating the application the albuminuria reappeared and continued for six days. It was proven that the vaselin alone would not produce this effect. Dr. J. noticed the same effect to be produced on two other children aged six and eight years.

He also observed that albuminuria and fever followed the application of iodine to a swollen scrofulous gland in a girl four years of age.

Albuminuria, after pencilling with iodine, had already been observed by Simon and Budin, but only in children. J. noticed the same in a lady twenty-five years of age, seven hundred square centimetres of whose skin had been pencilled with iodine. Salts of iodine do not produce this effect, nor will it follow if the surface to which the iodine has been applied be washed with a solution of common salt or soda.

Von Lassar reports a case of fatal albuminuria in a man, following an application of petroleum to the whole surface of the body, on account of itching. Lassar has experimented by rubbing petroleum into the skins of animals. He found that it caused rapid degeneration of the epithelium of the uriniferous tubules.—*Physician and Surgeon*, June, 1882.

**ABSORPTION FROM THE BLADDER.**—DR. B. LONDON, of Carlsbad (*Berliner klin. Wochens.*, No. 11, 1881), has made a series of chemical and histological investigations in Ludwig's laboratory, in order to determine the disputed point whether the mucous membrane of the healthy urinary bladder does or does not permit absorption. He found, on injecting into his own bladder weak solutions ( $\frac{1}{2}$  per cent.) of chloride of lithium and iodide of potassium, that traces of these could be detected in the saliva. As it has been said that distention of the bladder favors absorption, possibly by producing some mechanical alteration in the epithelium, he made a number of observations on the bladders of dogs, and found that no degree of distention caused either displacement or a solution of continuity of the epithelium, on account of its extraordinary elasticity, but that there was a decided change in the shape of the epithelial cells.—*London Med. Record*, June 15, 1882.

**SIMPLE MEANS OF DETECTING TRICHINÆ.**—According to Prof. Phin, the parts of an animal that should first be examined are the diaphragm, tenderloin and muscles about the head and throat. In a ham, the most likely place is that at which the muscle ends in a tendon. Cut off a thin slice with a very sharp knife, or with a pair of scissors curved on the flat. This thin

section should then be soaked for some minutes in acetic acid, spread out on a thin piece of glass, and covered with another similar piece. These two slips are then pressed together. A compressorium, by means of which the plates of glass are forced together by a lever and screw, answers admirably. But better still he finds the trichinoscope, which is a compressorium holding the two glass slips, but fitted with a simple microscope on a sliding frame, which permits the examination of the specimen in each part. A thin piece of flesh, moistened with a mixture of equal parts of acetic acid and glycerine, is placed on the lower plate, and spread by means of needles fixed in wooden handles. The upper plate is then brought down on the lower one, and the screw is turned into the slot in which it fits. By turning the nut any degree of pressure may be brought to bear on the flesh, which thus is rendered so thin and transparent that any trichinae present will be readily brought into view.—*Boston Journ. of Chemistry*, June, 1882.

**THE RED COLOR PRODUCED IN DIABETIC URINE BY CHLORIDE OF IRON.**—Ever since Gerhardt directed attention to the fact, it has been well known that, in many cases of diabetes, the urine became red on the addition of chloride of iron. The substance to which this reaction appears to be due is usually known under the name of ethyldiacetic acid. On the addition of water it breaks up into acetone, alcohol, and carbonic acid; and as these substances are frequently present in diabetic urine, Gerhardt supposed that the substance to which the red reaction of the urine is due subsequently broke up into these three.

There are, however, other substances which, when present in urine, lead to a similar coloration on the addition of chloride of iron, among which may be mentioned salicylic acid and its salts. To distinguish the reaction of ethyldiacetic acid from that of other substances, VON JAKSCH (*Zeitschr. für Heilk.*, Band iii.) points out (1) that, when the urine is boiled for five or six minutes, the ethyldiacetic acid becomes decomposed, and no longer gives the red reaction; and (2) that, when that substance is extracted from the urine by shaking with ether, and the ethereal solution rendered red by the addition of the salt of iron, the red color disappears gradually after standing for a few days. These reactions are sufficient to distinguish ethyldiacetic acid; but a good many others are given, for which the original paper must be consulted.

The results of the clinical examination of a large number of urines are given with some detail. In regard to the iron reaction in diabetic urine, Von Jaksch points out the following facts. 1. In all cases where the patient died comatose, the urine gave the reaction. 2. The reaction occurred very frequently without any coma being present. Its presence does not depend upon diet, and particularly not upon the meat-diet of diabetics. 4. Neither the administration of such medicines as Carlsbad water, cod-liver oil, lactic acid, manite, lichenin, nor of ethyldiacetic acid or acetone, caused the appearance of the red reaction in the urine.

Not only in diabetes, but also in scarlatina, measles, and other acute exanthemata, the author detected the presence in the urine of the substance which gives this red reaction.—*London Med. Record*, June 15, 1882.

**OPIATES AND PERISTALSIS.**—PROF. NOTHNAGEL, of Vienna, recently communicated to a German society the results of experiments on the action of opium and morphia on the intestine. The constipating power of these drugs appears due to their being irritants of the splanchnic, the inhibitory nerve of the intestine. That nerve is specifically influenced by morphia, just as the vagus, the inhibitory nerve of the heart, is acted upon

by digitalis; in fact, in both cases, small doses excite, large doses paralyze. It was observed, in a discussion on this question, that the peristaltic action of the intestines is not necessarily the same in man as in animals. Antiperistalsis does not appear to occur in the latter; in our species it is known to exist; though, when obstruction exists, peristalsis in the ordinary direction is quite sufficient to account for fecal vomiting. Dr. Rosenstein, however, had seen chronic fecal vomiting in a patient of his where no mechanical obstruction could be found. Prof. Preyer stated that he had seen antiperistaltic movements of the small intestine in animals, and pointed out that the filling and emptying of the cæcum, especially of the very long cæcum of some animals, could only be effected by alternate peristalsis and anti-peristalsis.—*Brit. Med. Journ.*, May 27, 1882.

**ARTIFICIAL DRUM-MEMBRANES, AND ESPECIALLY THE COTTON PELLET.**—DR. GRAF reports seven cases in which he employed several forms of artificial drum-membranes, and thinks, if any conclusions can be drawn from so few cases, that the artificial drum-membrane is useful only in cases of large perforations, with a tough mucous membrane of the drum-cavity, where there is but little or no secretion, and great diminution of hearing. He thinks he can also testify to Moos' observation, that the artificial drum-membrane sometimes restores bone conduction, but in one instance this was not the case. He also agrees with Bezold that a layer of boracic-acid powder causes increased hearing by acting as an artificial drum-membrane. As a general thing, however, he is inclined to give the cotton pellet the preference. Its therapeutic effect is also in its favor. It does not seem to be of great importance whether the pellet is used dry or moistened with glycerine, vaseline, etc. This depends upon the peculiarity of each case.—*Archives of Otolaryngology*, June, 1882.

**POST-MORTEM SIGNS OF DROWNING.**—From an analysis of one hundred and seventy cases of drowning, of which the appearances are arranged in tabular form, DR. F. OGSTON, JR., draws the following conclusions:

1. When an external examination of the body only is allowed, if abundance of water pours from the mouth on turning the corpse face downwards, and if white watery froth is found at the mouth and nostrils, or if it may be made to issue from them on compressing the chest, we may be justified in giving an opinion as to the probability of drowning, especially when the accessory signs, viz., rosy redness of the face and front of the chest, gooseskin, and bleaching and corrugation of the hands, are well marked, presuming always that no lethal injuries are seen on the body which would appear to have been inflicted before death, and no traces of corrosive action, etc., from poisons be observable about the lips, hands, clothes, etc., but that to justify us in giving a more positive opinion we ought to have furnished to us a detailed account of the locality in which, and the circumstances under which, the body was observed before its removal to the place where it lies for examination.

2. That where a complete inspection of the body is permitted, we may give a more positive opinion when, in addition to the external appearances, water in marked quantity, mixed with white watery froth, is found in the lungs and stomach, and also, perhaps, when a large quantity of watery fluid is seen in the pleural cavities, when sand, seaweed, etc., are found in the bronchi, or even in the trachea, when the lungs are bulky or protrude on the removal of the sternum, and when the blood within the heart is wholly fluid—especially when with these signs we find marked appearances of asphyxia in the heart, lungs, liver, etc.—*Edinburgh Med. Journ.*, April, 1882.



**TREATMENT OF STRUMOUS GLANDS.**—The treatment of chronic caseating strumous glands has undoubtedly been improved in quite recent times. In the earlier stages the external application of iodoform in the form of its collodion is frequently of marked service, and when suppuration has taken place the thorough local application of powdered iodoform and the enucleation of the glands are of great value in cutting short the affection and producing a quick recovery. In a paper in the *Central. f. Chirurg.*, DR. VON LESSER points out that the disease in the glands often assumes the form of small caseous foci, which may become encapsuled and possibly calcareous, but are more likely to lead to suppuration, during which they are extruded, or to general tubercular infection. In view of these events he has, while the glands are still only indurated, attempted to enucleate these caseating portions of the glands. His operation is thus performed: Fixing the gland and pushing it forward under the skin with the finger and thumb of the left hand, he makes a small puncture through the skin and into the gland with a narrow knife. Through this wound he passes a small sharp spoon and scrapes the interior of the gland. The soft cheesy portions readily yield and come away, while the more healthy parts of the gland prove more resistant. If several glands lying close together are enlarged, he operates on them all, or on several through one skin wound, the spoon being pushed into one after another. By this means the disease is cut short, ulterior dangers are avoided, and unsightly scars prevented. Lesser recommends that the operation should be done with strict antiseptic precautions, and that care should be taken not to wound any large vessel, nor to leave behind in the wound any of the cheesy debris.—*Lancet*, June 24, 1882.

**LAPAROTOMY IN PURULENT PERITONITIS.**—The patient, a young man, aged 21, operated on successfully by DR. SCHMIDT for purulent peritonitis, was shown last year in the Medical Society of the Moscow Military Hospital (*Wratsch.*, Nos. 51, 52). Eight months before, he had been admitted into the hospital for recurrent fever. In the hospital he had three attacks, the last being followed by inflammatory fever, the cause of which was not clear. Six months thereafter the patient came into Dr. Schmidt's hands in a very reduced condition, and with a well-marked exudative peritonitis. He decided to open the abdominal cavity, and, under antiseptic precautions, with the patient under chloroform, he made an incision from the umbilicus to the symphysis. On division of the thickened peritoneum, a large quantity of healthy pus gushed out. As there was no sign of decomposition, the cavity was emptied as completely as possible without washing it out with any antiseptic. Two finger-thick drainage tubes were inserted, the wound sewn up, and a strict Listerian dressing applied. The dressing was at first changed daily, afterwards every five to ten days. The wound healed without a bad symptom, and, in two months from the operation, the patient was recovered. Dr. Schmidt believes that the cause of purulent peritonitis is the escape of low organisms from the intestine into the abdominal cavity. Such may be the case, but certainly in this instance the explanation by a thrombosis, brought about by the recurrent fever, seems to lie nearer to hand. But however that may be, the case is an interesting and encouraging one, indicating that surgical treatment is justifiable in purulent peritonitis, as it is in empyema.—*London Medical Record*, June 15, 1882.

**THE TREATMENT OF WRITERS' CRAMP.**—DR. TH. SCHOTT, of Nauheim, writes to the *Deutsche Medicinische Zeitung* to claim for his brother (Dr. Aug. Schott)

and himself priority in the mode of treatment recently described by M. Romain Vigouroux as Wolff's method, and which was communicated by them to Wolff in 1878. He gives a very clear description of the method, which consists of a combination of gymnastics and shampooing. The gymnastics are active and passive. The latter are performed by the patient alone. They last 20, 30, to 45 minutes. Commencing with the fingers, these are flexed, extended, abducted, and adducted; the thumb is treated separately. Then follow four movements of the wrist, flexion and extension of the forearm on the arm, and finally movements of both arms in four directions. Each exercise should be repeated six to twelve times, and with sufficient effort to redden the face. After each series of movements there should be a short pause. In the active gymnastics the same movements are made, but each must be arrested, or rather opposed by another person, so that for each a distinct muscular effort is required. These exercises should last as long as the preceding series. They should be repeated three or four times a day. In the process of shampooing, the operator oils his hands and the patient's limbs, and commences by light friction over the course of the principal nerve-trunks, from the periphery to the centre, gradually increasing the force of the pressure, and again relaxing it towards the end. This part should last about ten minutes. Shampooing of the muscles is performed by taking the body of a muscle in the hand and rubbing it longitudinally and transversely, without compressing it too much on the subjacent bone, commencing with the hand and finishing with the shoulder. The duration is the same as for the nerves. Care must be taken to avoid bruising, which does harm. A single daily shampooing is enough. The improvement which is manifested by the third or fourth week should not cause a cessation of these exercises, but they should be continued for six or eight weeks to ensure a complete cure. In the early period of treatment the patient should abstain from work, and go back to it gradually, avoiding all cause of fatigue. To prevent relapses, Dr. Schott recommends daily employment of the passive exercise for some weeks; and the use of the local cold douches suggested by Esmarch. He has cured all his patients, and has seen no relapses. Most of them were the female pupils of the Conservatoire of Music, at Frankfort, sufferers from pianists' cramp.—*British Medical Journal*, May 27, 1882.

**PECULIAR SKIN ERUPTION OCCURRING DURING PREGNANCY.**—MR. R. J. W. OSWALD reports the following remarkable case: Mrs. A., aged forty, the mother of five children, was confined of a healthy male child on March 7, 1882. She had had no child or miscarriage for eight years and three months previously. When about five months pregnant with this last child she noticed a squamous eruption appear on the upper third of the forearms, not affecting the flexures of the elbow-joints. This eruption gradually became worse, the skin was indurated and raised, and eventually both forearms and hands were affected. Almost concurrently with this the lower limbs showed the same peculiarities, with some variation, however. The enlargement was very great, almost to twice the natural size, accompanied with oedema. The skin was very rough and hard, and appeared similar to "elephantiasis." About two months before the patient was confined, larger bullæ appeared on the lower extremities, but at no time were the upper limbs thus affected. Some of these bullæ burst and formed hard thickened crusts, from which exuded a thin glairy fluid. The pain accompanying this affection was very severe, and the patient was unable to go about her household duties for fully three months previous to her confinement. Immediately after the confinement the

skin of the forehead, face, neck, and upper part of the chest, which up to that time had been free from blemish, began to be squamous and indurated, and very much thickened, but no bullæ appeared at any time. Both anæsthesia and hyperæsthesia were present. She is now (seven weeks after her confinement) better in some respects, although there are still a few bullæ on the legs, and the skin still shows to a slighter extent the peculiarities just described. The patient is, no doubt, of a rheumatic diathesis, but whether this, combined with the great changes the system undergoes during pregnancy, has helped to cause this eruption he could not say. The only treatment adopted has been absolute rest, and the administration of alkalies. Previous to her confinement eight years ago the patient had a similar eruption on the forearms and hands, and the legs and feet were affected also about two months before the confinement. In about three weeks after this the skin was quite clear again, and the severity of the attack was not nearly to the extent as in the present instance.—*Lancet*, June 10, 1882.

**THE FUNCTIONS OF THE EUSTACHIAN TUBE.**—In his earlier experiments Fournié came to the conclusion that the Eustachian tube was open in the state of muscular rest. The manner of proving this is somewhat peculiar. He took two glass balls, which were attached by a glass rod 2 mm. thick. In one of the balls there is gas; the other is closed. Since he could not smell that gas was in the first ball, he considered it as proven that by open tubes no air went into the drum-cavity, it must therefore be driven into it by the action of the muscles. Later anatomical considerations (*Rev. Méd.*, No. 38, 1881) have convinced him that the tubes are widest opened at the beginning of the act of deglutition, brought about by the action of the tensor veli and the m. glosso-palatinus. In the latter part of this act the tubes are compressed by the tensor tubæ, and the air contained in them forced into the drum-cavities.

How erroneous the conclusions are which Fournié draws from his alleged physiological facts, is evidenced by his discussion of the usual methods of inflation. According to Fournié, Toynbee's experiment does not produce a rarefaction but a condensation of air in the drum-cavity. A simple inspection of the drum-head during this experiment would have convinced him of the contrary. In Politzer's experiment the forcing of air into the tube is of but little moment. In Lucae's or Gruber's procedure the passage of air through the tubes, according to Fournié, is impossible, as the tubes are closed. The best procedure is now found: "The procedure of Edward Fournié." Open the mouth before a looking-glass, depress and contract the velum palati, until above and before the anterior arches two small dimples are formed; in that moment the tubes are opened and the air enters the drum-cavity by itself.—*Archives of Otolaryngology*, June, 1882.

**HOANG-NÀN IN HYDROPHOBIA.**—In a recent case of hydrophobia in Paris, M. GINGEOT administered hoang-nàn, a Tonquin remedy employed in the East for a variety of diseases, and especially for hydrophobia. It is a product of the *Strychnos gauthieriana*, so-called after the missionary who first transmitted a specimen to France. According to Wurtz the bark contains some strychnine and a still larger quantity of brucine, and its action on animals is the same as that of these two alkaloids, with the difference, however, that the effects are manifested first on the hind limbs, then on the trunk, and lastly on the fore limbs. Another difference from brucine is that the convulsive spasms always cease a short time before death. In hydrophobia, according to Lesserteur, it should be freely given, until the patient experiences a sense of general malaise,

giddiness, and nervous movements of the jaw. Vinegar should be given with it to dissolve the active principle in the stomach. In M. Gingeot's case the progress of the disease did not appear to be in any way influenced by the treatment, but the first doses were vomited, and the patient died shortly after two hypodermic injections of hoang-nàn had been administered.—*Lancet*, June 17, 1882.

**PIGMENTARY HYPERTROPHIC CIRRHOSIS IN DIABETES MELLITUS.**—MM. HANOT and CHAUFFURD report the histories of two cases in which a bronze coloration of the skin, analogous to the condition observed in Addison's disease, but without pigmentation of the mucous surfaces, occurred during the cachectic stage of diabetes mellitus. At the autopsy there was found a hypertrophic cirrhosis of the liver, with numerous new formations of bile ducts and pigmentary atrophy of the hepatic epithelium. The authors attribute, with some reserve, these complex lesions to three successive influences: first, the lesion producing the diabetes; then the alteration of the blood thereby produced, and finally the irritant effect produced by the arteritis.—*Gaz. Hebdom. de Méd. et de Chir.*, June 9, 1882.

**GLANDERS IN THE HUMAN SUBJECT.**—In a recent number of the *St. Petersburg Med. Wochenschrift*, Dr. ZDEKAUER describes a case where the clinical symptoms of glanders were observed, although no distinct history of infection could be obtained. A lady, aged 46, and in very good health, was attacked, at the beginning of January, with swelling of several large joints, and high fever. At the end of three weeks, the temperature continued over 104°, with no eruption, slight enlargement of the spleen, and very feeble pulse. Dr. Zdekauer diagnosed "latent blood-poisoning complicated by rheumatic polyarthritis." On January 26, the face became oedematous, with pustules as large as a bean; there were great lividity of the lower eyelids, no glandular swellings, and a typhoid condition. On the next day, the face was enormously swollen, and large grayish swellings, with dilated lymphatic vessels between them, covered the left lids, the nose, and the mouth. Several pustules, of the size of cherries, with livid bases, were found on the arm; the patient became comatose, and died in the evening.—*British Medical Journal*, May 27, 1882.

**PYROGALLIC ACID IN THE TREATMENT OF VENEREAL ULCERS.**—DR. ANDRIEU (*Thèse de Paris*, 1881) says that pyrogallie acid has been introduced into therapeutic use by Dr. Jarisch, of Vienna. Since then M. Vidal at Saint Louis, and M. Terrillon at the Lourcine Hospital, have applied it successfully to the treatment of soft chancre. The formula used at the Lourcine is as follows: Starch, 40 grammes; vaseline, 120 grammes; pyrogallie acid, 40 grammes. This ointment should be used fresh, and kept in a stoppered bottle. To remedy the inconveniences of dressing venereal ulcers with fatty bodies, M. Terrillon has substituted for the ointment a powder composed as follows: Pyrogallie acid, 80 grammes; starch, 80 grammes. This powder is blown on the part by means of a small bellows. Nevertheless, a certain number of cases reported by Dr. Andrieu in his thesis tend to show the superiority of the ointment over the powder. If one application be made daily, the duration of the treatment is notably abridged, in comparison with the methods generally employed. It is sometimes necessary, when the ulcer is very extensive, to make two applications; but the latter is the exception. After the second application, the chancres will have lost all their virulence.—*London Med. Record*, June 15, 1882.

# THE MEDICAL NEWS.

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## THE DANGERS OF ATHLETIC SPORTS.

LAST week we alluded, in terms of the highest praise, to the recent popularity of athletic, and especially of summer, sports. But there is another side to the question. "Nothing venture, nothing have," saith the old proverb, or, transposing it, the having implies a venturing. Every climb means peril of a broken limb; every swim the possibility of drowning; every ride may become a runaway.

Many games involve actual danger, only to be avoided by an alertness the result of long practice and by suitable precautions. Witness the mask of the base-ball catcher and the fencer, the gloves of the boxer, the button on the foil. But strength only comes from perils faced and mastered. The "milk-sop" may neither break his bones nor his neck, but his physical as well as his mental flabbiness involve passive dangers less heroic and less apparent than those of the athlete, but not the less certain and, it may be, deadly.

But the dangers from blows and falls are patent to every one, and must be, as it were, anticipated and provided against by those engaging in such sports. We wish now to raise anew a warning voice as to less apparent dangers—dangers, in fact, unknown save to the physician.

One source of evil we alluded to but lately—that of heat exhaustion. The season for out-door sports is the hot season. The boat races, the cricket or the base-ball matches are in the broiling sun, and if brief, as in rowing, are fierce and impetuous to the last degree; if long, as in ball and cricket, hours may be spent in the heat, and the better the player the longer he is at the bat. But it is often in the

previous training, or rather over-training, that the danger lies. The college man, accustomed to only moderate exercise and to ordinary food, suddenly undertakes long walks, swift runs, and repeated rows; restricts and alters his ordinary food; changes more or less his habits as to sleep and tobacco, and, it may be, other stimulants—changes which, though in themselves good, are none the less disturbances of his ordinary equilibrium—loses fat and gets down to "fighting weight." To most men such a course of training means vigorous health; but every now and then either a man goes to the extreme and overdoes it or lacks the ordinary toughness of fibre, and in the final short but sharp struggle he becomes exhausted and faints in his place or when the trial is over.

But there are other dangers still. Train as one will, no practice ever equals the race in the excitement and the intense exertion of the competition; a running mate is needed even to make Goldsmith Maid do her best. Each time and especially at the race, with the exertion comes the need for more blood sent quickly to all parts of the muscular system. The heart must do more work, and do it suddenly and effectively. With the growing biceps the cardiac muscle grows too, and enlargement of the heart, sometimes even acute in its onset, is not an uncommon result; or, if the heart responds but imperfectly to the oft-repeated and prolonged demand, the form of irritable heart, so well described by Da Costa, in soldiers, will often set in.

But the mischief does not stop even here. With increased blood supply the lungs must be overstrained to receive and oxygenate the blood so suddenly thrown upon them, and also by the mechanical effects of the violent respiration. Under the sudden or continued pressure the delicate air cells not seldom give way and emphysema results. In the fierce struggle at forty-six strokes to the minute, what wonder that the race is lost and with it not rarely the possibility of a brilliant future for one or more young lives.

Women are certainly less apt to suffer from vigorous sports than men; yet not a few overdo. A young girl at school or engaged in home duties and leading a semi-sedentary life for six days in the week, on a Saturday will walk five or ten miles; or spend an entire afternoon at tennis or croquet. It is the same disproportion that does harm. If every day she walked three to five miles, the ten would do no harm. Physical development must come gradually and not spasmodically. The first days of a summer's holiday in the mountains do not give the strength for climbing, that will come in time. *Petit à petit* was the motto of the French knight, at the foot of a mountain with his pick-axe. Particularly do girls and often women harm themselves by over-



exertion at the menstrual period, and especially of course in winter. Modesty forbids the true excuse, candor rejects a false one, and off they go with aching backs and throbbing heads as merry as the merriest; walking, running, skating, exposed to dampness, and cold, and fatigue, when they should be at rest, warm and dry. Health should be had at the cost of any pleasure, and a sister of Scheherazade surely can always find or make a valid excuse.

#### IODOFORM IN VENEREAL PRACTICE.

LIKE most other new and useful remedies, iodoform, which in certain properly selected cases acts almost like a specific, has come to be prescribed so indiscriminately that it often fails to produce the results expected from it, and consequently suffers unjustly in general estimation.

Leaving aside for the present its use in antiseptic surgery, a subject now being actively discussed, it may not be without avail to mention in a few words the indications for its employment in venereal practice, and the limitations within which, in such cases, it is likely to prove beneficial.

Its chief value, and that which first brought it prominently to the notice of the profession, is in its application to unhealthy or chancroidal ulcers of the genitals, upon which its combined sedative and alterative action exerts the happiest effect. In this respect no other drug can be compared with it, and in its power to relieve pain, to prevent offensive decomposition of discharges, and to stimulate the surface of such ulcers to granulation, it is certainly unequalled; there, however, its usefulness stops; it will not retard the growth of a large, indurated, infecting chancre, it will not arrest phagedæna, it will not remove venereal warts, nor materially affect an inflamed gland; and yet it is an every-day occurrence to find it prescribed for one or the other of these affections to the neglect often of the proper remedial measures.

The chief objection to its use is its pungent and to some persons peculiarly disagreeable odor, which it is almost impossible to conceal. Wood-charcoal, petroleum, oil of eucalyptus, glycerine, alcohol, tannin, various perfumes, and strongly odoriferous drugs, have been tried with greater or less success, but the iodoform always asserts itself sooner or later. For ability to "hang around" anything it is once applied to, it far exceeds "the scent of the roses," or any other scent with which we are familiar. The most effectual plan of disguising the fact that iodoform is in use about the genitals, is one employed by a practitioner of this city, who recommends such patients to spread some of the ointment upon a piece of muslin and bandage a finger with it, thus apparently furnishing to all inquiring friends con-

clusive ocular evidence as to the source of the smell.

Internally iodoform has been proved to be of great use in those cases of obstinate tertiary syphilis in which other forms of iodine have lost their power. In doses of from a quarter to a half a grain, four times daily, gradually increased if the stomach tolerates it, it will sometimes exert a most excellent influence on old syphilitic ulcerations, fissures of the tongue, obscure cerebral or hepatic symptoms, or other late manifestations of the disease.

Here, again, we have sometimes known it to be prescribed injudiciously, in the early stages where mercury should have been administered, and in other cases in which the same results might have been attained by iodide of potassium, and with far less danger of gastro-intestinal irritation.

It should never be used internally in late syphilis unless the other iodides have failed, but if it is then given cautiously, and if care be taken to associate its administration with the taking of food or the ingestion of barley water or some other mucilaginous drink, it will often be found of great benefit.

Iodism and unpleasant cerebral symptoms result from its continued use in full doses, and, as in a case reported by Oberländer, have appeared when only five grains had been taken.

#### THE ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE BY RESEARCH.

SUCH is the clear but cumbrous title of a society which has been, as it were, compelled to exist by reason of the repeated and fierce attacks of the anti-vivisectionists in England. Its purpose is not so much, perhaps, the endowment of research as its guidance and protection. The Royal Society and the Committee of the British Medical Association on Scientific Grants both supply the means to scientists not so happy as Mr. Darwin in being plethoric in purse. But this Association is especially "to meet promptly any attack from outside upon the invaluable labors of competent investigators," as Dr. Wilks, the Treasurer, puts it. In case of any doubts arising in the mind of the Home Secretary as to the advisability of granting any license for research by experiments, here is a body to which he may confidently appeal to determine whether the proposed investigation be needful, the investigator competent, the methods wise and humane. If the law be invoked to prevent progress by research, the Association will also wield the same weapon to defend the scientists thus threatened. The education of public opinion, however, will be, perhaps, its chief function. Even in this country such education is sadly needed, but in England it is imperative. If a change is not soon effected in public opinion and in legislation, research must come to an end, and sci-



entific medicine must stop. The publications of the Association, the pamphlet of Mr. S. Gamgee on *The Influence of Vivisection on Human Surgery*, and the published addresses and papers of Dalton and others in this country, will do much to put the matter in its true light, and overcome the prejudice which exists as the child of ignorance and false sentiment.

The Association starts, we see, with over £1000 in its treasury. We wish it the best success, with the added wish that no such association shall ever be needed in this country by reason of any similar opposition to scientific research.

#### SEWERAGE IN PHILADELPHIA.

IN our issue of June 17th, we directed attention to the unsanitary condition of the sewerage of Philadelphia, and specified some of the more glaring defects in the system. Since then Councils have passed two ordinances, which, if faithfully administered, will have the effect of greatly improving the character of all future work of a certain class. The one requires "that all sewers hereafter to be built, and of which the area required shall be less than that of a circular sewer of four feet diameter, shall be of the section known as oval or egg-shaped;" the other provides for the appointment of inspectors of the construction of branch sewers, drains, and inlets, who are to be held responsible for the faithful execution of the work in strict accordance with the specifications and contract.

As an evidence of a livelier and more intelligent interest in the solution of a question vitally connected with the preservation of the public health, this legislation is indeed most promising. It undoubtedly will be productive of good results. But its object relates solely to the design and character of works hereafter to be constructed, and affords no relief whatever for the blunders and evils with which the present system is burdened.

It was hoped that, in the apportionment of the handsome surplus of over one million dollars among the most needed permanent improvements of the city, a reasonable amount would have been set apart for the purpose of commencing the thorough reconstruction of the sewerage works in accordance with the requirements of the highest standard of modern skill and knowledge. This course would have been timely and judicious, and there appears to be no justifiable excuse for its neglect.

#### BEEF-TEA.

WE had occasion to observe a short time ago that our long-prized and extensively-employed beef-tea was, according to the recent opinion of some physicians, of no more value than urine, which it was said very closely to resemble in composition. It is more

pleasing for us now to state that, according to the researches of ROBERT (*Archiv f. Exper. Pathologie u. Pharmacologie*, Bd. xv., s. 22), which have been conducted in the laboratory of Schmiedeberg, at Strasburg, the kreatin which exists abundantly in all extracts of beef has a remarkable effect on the muscular system, inasmuch as it increases its actual power and greatly extends its capability of continuous work. His experiments were made on frogs, and of many substances tested, besides kreatin, only hypoxanthin and caffein possessed a similar action; and hypoxanthin is likewise a constituent of beef-tea. Beef-tea, therefore, if not so highly nutritious as it is generally assumed to be, is not yet so entirely useless as some observers would have us believe. The feeling of strength which its employment gives must, apart from its actual value as a nutrient, be of great service in the treatment of the sick and convalescent.

#### THE CURIOUS HISTORY OF AN ANATOMICAL SPECIMEN.

WE venture to think that few of our readers know the romantic history of one of the specimens in the remarkable collection of preparations illustrating the anatomy of the ear in the possession of the College of Physicians of Philadelphia. Prof. Joseph Hyrtl, who prepared the specimens (and from whom they were bought), had such relations with scientific men and dealers that he was able to procure many unusual specimens, sometimes by purchase as great rarities not to be "ordered" as wanted; sometimes by exchange; sometimes as presents. The history of some of these is found in a little pamphlet he published in 1873. As an example of the first, the skull of the gorilla cost one thousand francs, besides the labor afterwards bestowed on the preparation of the ear-bones and labyrinth. As examples of the last are the specimens from the elephant, rhinoceros, hippopotamus, and others presented to him by De Blainville. That from the hippopotamus has, however, a very peculiar and amusing history connected with it. No living hippopotamus had been brought to Europe since the time of the Romans, and the anatomy of its viscera was entirely unknown, when the French government sent M. Arnould d'Abbadie as Minister to the King of Schoa (Abyssinia). The Academy, before he left, expressed an earnest wish that he would send them the viscera of a young hippopotamus in Gannal's solution. The minister obtained the coveted prize with unexpected and most creditable tact. On his arrival he found his sable Majesty laid up with articular rheumatism, and was soon besought to lend his services, as in the Orient all the Franks pass for physicians. M. d'Abbadie answered resolutely "assuredly." "Bring me the remedy," said the King, "I would give my crown to be well again." "Nothing is easier; the

remedy is to be found in your own country; it is hippopotamus fat." "Fetch a hippopotamus," cried the King in haste to his attendants. "Not so fast, your Majesty, not so fast; it must be the fat of a female, and of a female that is pregnant," said the wily ambassador.

Diplomacy clearly has its place even in science. Huntsmen were immediately sent out in all directions, and soon returned in triumph. D'Abbadie rubbed the fat on the joints of the King and cured him! History saith not anything as to his fee, but she does record the fact that the fetus was sent to the *Jardin des Plantes*. There De Blainville allowed Hyrtl to remove one of the temporal bones, and so the College of Physicians has the labyrinth of the hippopotamus of Schoa.

#### MEDICAL DANGERS FROM CONGRESSIONAL LEGISLATION.

CONGRESS having appropriated \$20,000,000 for rivers and harbors, and we forget how many more millions for public buildings, and refused a paltry few thousands for the beneficent work of the National Board of Health, and nearly crippled the National Medical Library for want of \$5,000, now proposes at the fag-end of the session to tackle homœopathy and other irregular schools of medicine. Mr. Cameron, of Pennsylvania, has introduced a joint resolution making it a misdemeanor punishable by a fine of \$500 and dismissal from office, for any officer to discriminate for or against any school of medicine. Observe the word *any*. Thomsonians, Eclectics, Botanics, Homœopaths, the men whom Buchanan and Paine foisted on a suffering public, are all, at one fell swoop, to be made eligible to the Medical Corps of the Army, Navy, and Marine Hospital Service!

It would seem that Mr. Cameron already had enough political troubles to satisfy most public men. But they only appear to whet his appetite for more. If we really thought his action a serious menace, we should have something to say on the point; as it is, we simply call attention to it as a cheap bid for a certain kind of popularity.

#### THE DERIVATION OF "TROCHANTER."

A VERY curious series of errors occurs in our dictionaries as to the derivation of the word "Trochanter." They define the English medical term correctly, but give an entirely incorrect definition to the Greek word from which it is derived. Worcester derives it from the "Greek τροχαντήρ, the ball on which the thigh-bone turns in its socket," that is to say, the head of the bone. Webster says, "the ball on which the *hip*-bone turns in its socket," which is simple nonsense. Liddell and Scott, whence doubt-

less they both took the definition, use precisely the same words as Webster, and give as authorities, "Galen; Epigramma apud Sextum Empiricum M. I. 316; Julius Pollux II. 187; Hesychius."

We have taken no little trouble to verify the references, and find that not one of them justifies the error. Kühn's edition of Galen is in the Library of the College of Physicians, and the other three are in the Logonian Library at the Ridgway Branch of the Philadelphia Library.

Hesychius speaks of the trochanter as "the outside protuberance of the head [*i.e.*, upper end] of the thigh."

Sextus Empiricus quotes from some unknown writer, who uses the word, not very clearly, in speaking of the legs, extending as far as the trochanters, "ἅντα βάσα τροχαντήρων ἄχρι."

Pollux, in the *Onomasticon*, says (we give the Latin translation), "ossium vero circa femoris caput prominentia trochanter nominatur." "The prominence of bone about the head of the femur is called the trochanter."

But Galen's use of the word is still clearer, and we believe most other Greek writers also use the word correctly. Thus in the *De Ossibus ad Tirones*, ch. xx., xxi., and again in the *De Anatomicis Administrationibus*, Lib. ii., Cap. vi., he repeatedly refers to the head of the femur, τὴν κεφαλὴν τοῦ μηροῦ; the neck of the femur, τὸν αἰχένα τοῦ μηροῦ; the great trochanter, τὸν μέγαν τροχαντήρα; and the lesser trochanter, τὸν μικρὸν τροχαντήρα; and even distinguishes correctly the muscular insertions into different parts of the great trochanter. We trust that our dictionaries will correct the error.

#### PILOCARPINE IN HYDROPHOBIA.

It has been rumored in Paris, lately, that M. BOULEY had cured two cases of hydrophobia by the subcutaneous injection of pilocarpine. It turned out, however, that the cases were probably not examples of hydrophobia. The Paris experience with this remedy has not been fortunate. Prof. Seé has used it in one case without success; and Dujardin-Beaumetz, in no less than six cases of the genuine disease, with equal ill-success. Indeed, the latter affirms that pilocarpine rather increases the severity of the symptoms than affords any relief. Experience, then, is decisively against the administration of this remedy in hydrophobia. The subject deserves mention here merely to prevent the loss of valuable time in the treatment, for, whilst pilocarpine has no curative effect, it rather increases than diminishes the sufferings of the patient.



## REVIEWS.

MANUAL OF DISEASES OF THE SKIN, WITH AN ANALYSIS OF EIGHT THOUSAND CONSECUTIVE CASES, AND A FORMULARY. By L. DUNCAN BULKLEY, A.M., M.D., etc. 12mo. pp. 312. New York: G. P. Putnam's Sons, 1882.

THIS little work fills a vacant place in American dermatological literature. Arranged essentially according to the classification of the American Dermatological Association, it is in accord with the larger and more scientific works on skin diseases, and this makes it easy for the student who may wish to enlarge his knowledge of these affections, to pass from the primary work to the larger and more complete Treatise.

Introductory chapters on anatomy, and physiology, and on classification, general diagnosis, and etiology, are followed by chapters on the chief diseases of the skin as they are met with in this country, each one being briefly described as to its clinical appearances and distinctive characters, and then the general outlines of treatment are given with reference to the formulary at the end of the volume for particular and suitable prescriptions.

We can cordially recommend Dr. Bulkley's work to the student as excellent within its peculiar sphere, and far superior to the little English manuals of skin diseases which alone have heretofore been available.

TUBERCULAR DISEASE OF SYNOVIAL MEMBRANES AND TUBERCULAR DISEASE OF JOINTS. BY JOHN CROFT. Reprinted from the *Transactions of the Pathological Society of London* for 1881. 8vo. pp. 16, pl. III. London: J. E. Adlard, 1882.

WE must confess that this paper is very scientific, but very dreary. Any one who reads it will fulfil a duty, and feel happy when the duty is done. There is truth in it, and valuable truth as a plea for tubercle, both of the synovial membranes and of the joints, but it is truth so utterly unadorned and unattractive as to be very unlively. The style, too, is careless. "In the adjoining room are exhibited microscopical preparations from *six* cases of diseased joints," are the opening words, and the next three lines show that the preparations are from *seven* cases, of which six were tubercular. He refers to the "two last" cases as if the last case and its predecessor were both "last." He speaks of "articular bone" more than once, a variety of bone we never heard of before; and also of "the constitutional diathesis which leads to, or tends to, lead to the deposit," etc., a phrase whose punctuation is as remarkable as its rhetoric. Dr. Greenfield's illustrations are excellent. If scientific writers would but cultivate a reasonably graceful style, and would be clear, sharp, and short, how much would be gained. But we are not all Tyndalls.

## SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

*Stated Meeting, June 7, 1882.*

W. S. W. RUSCHENBERGER, M.D., PRESIDENT, IN THE CHAIR.

DR. J. T. ESKRIDGE presented the following *Report of Three Cases of Abscess of the Brain*.

Abscess of the brain is of sufficiently frequent occurrence to make the subject of interest to the general practitioner. The cases reported in this paper are all

the more interesting because each, due to a different cause, was associated with dissimilar diseases. The first case was associated with cancer in several of the other organs of the body; the second, with chronic meningitis; the third, with apparent facial erysipelas and pneumonia followed by acute meningitis. Detailed cases of brain lesions lose half of their interest, and become almost valueless to students of cerebral localization, when unattended by accurate descriptions of the relations of pathological lesions to ganglia, fissures, and convolutions. I wish to acknowledge the services of my friend, Dr. Charles K. Mills, who took an active part in the post-mortem examination of Case I., and rendered me valuable assistance in accurately locating the lesions in the first two cases.

CASE 1. *Two Abscesses of the Brain.*—1. *The larger one, involving the centrum ovale of the postero-frontal and parietal lobes, deeper portions of the gray matter of the anterior parietal convolution, and superior parietal lobule;* 2. *The smaller, the anterior two-thirds of the lenticular nucleus, and the adjoining portions of the external capsule and claustrum.*

September 8, 1881, Mrs. D., æt. 54, had been a sufferer from headache fourteen years. She had a large frame and carried considerable fat. Excepting the head trouble, she had enjoyed excellent health until two years before, when she noticed a small tumor involving the left mammary gland. This proved to be cancerous, grew gradually, and was removed by a surgeon one year after its first appearance. There had been no return of the growth, although some pain had been complained of in the region from which it had been excised. Her head pain had greatly increased in severity during the last few months.

In the early part of July, 1881, the left arm began to feel weak, and ten or twelve days later, the left leg was similarly affected, but to a less extent. About this time she went to the country for her health. Continuing to grow worse, she returned home during August, three weeks before I first saw her, and was able to walk from the street cars to her house, a few hundred yards distant. A few weeks later I was called in, and made the following notes:

The left leg was almost completely paralyzed, the muscles feeling soft and flabby. The left arm was entirely paralyzed. The muscles of the left side of the face were slightly paretic. The right pupil was normal in size, left slightly dilated, and responded imperfectly to light. There was no paralysis of the muscles of the tongue, palate, or pharynx. The tongue was slowly protruded in the median line, but when it was held in this position a few seconds it became tremulous, a vibratory tremor taking place in individual muscular fibres. Muscular power was impaired in the right arm and leg, but co-ordination was perfect. She had had no convulsions, and there were no muscular twitchings. With the exception of a slight tendency to drooping of the upper lid of the left eye, the ocular muscles seemed to be acting well and in harmony. Sensation was unimpaired on both sides of the body.

*Special Senses.*—Vision was equal in each eye, and she read Snellen No. 8, held at about fourteen inches. The ophthalmoscope revealed nothing beyond a slight haziness of the right retina. Taste, smell, and hearing were nearly normal, being well preserved for a woman of her age. Speech was unaffected.

The tongue was moist and slightly coated, appetite poor, bowels constipated, not having been opened for several days. The urine was high colored, sp. gr. 1025, but free from albumen. The bladder was tolerant and acted voluntarily. She was restless, did not sleep well, and complained bitterly of pain in her head. The pain was usually dull. Its seats of intensity were at the top of the head and above each temple, being

worse on the right side. She was intelligent, her mind was clear, but being under the impression that her cancer would return, she worried, had become emotional and imaginative. Temperature (left axillary) 99°; pulse 76, full, soft, and regular; respirations 24 per minute.

*September 12.*—Four days later she was not so intelligent, worried more, and refused to eat. The feet were extended and inverted, the balls of the great toes lying in contact with each other. The internal and posterior muscles of the legs were so firmly contracted that it required considerable force on the part of the attendant to evert and flex the feet, and the effort gave her decided pain. The muscles of the left side of the face were almost completely paralyzed. Swallowing solid or semi-solid substances was so difficult that she refused to eat.

Temperature, right axilla 96°; left axilla 99.4°; right elbow 95°; left elbow 96.7°. Pulse 86; respirations 26 per minute, and largely of the abdominal type. After taking citrate of magnesium, her bowels were opened once yesterday, being the first time in about a week.

*13th.*—At 11 A.M., the temperature of the room being 80°, after ascertaining her body heat, as indicated in each axilla, I made observations on her cerebral temperature. Hick's surface thermometer was employed and allowed to remain in place ten minutes. The selected stations were as follows: 1. A middle frontal station in the centre of the forehead. 2. A right anterior frontal station, over the right eye, an inch and a half above the brow and the same distance from the median line of the forehead. 3. A left anterior frontal station, similarly located on the left side. 4. A right posterior frontal station, near the external angular process of the frontal bone. 5. A left posterior frontal station, corresponding in position on the left side to that on the right. 6. A right parietal station just above the left ear. 7. A left parietal station just above the left ear. 8. A right Rolandic station, situated on or near a line drawn over the top of the head from the right to the left auditory meatus, and from two to three inches above the top of the right ear. 9. A left Rolandic station situated similarly to that on the right. 10. A right occipital station, one and a half inches to the right of the centre of the occipital region. 11. A left occipital station, one and a half inches to the left of the centre of the occipital region.

Temperature in right axilla 97.9°, in left axilla 98.4°. Pulse 104, weak and unsteady; respirations 24 per minute.

#### Surface Temperature of the Head.

RIGHT SIDE		LEFT SIDE.	
Anterior frontal station,	97.3°	Anterior frontal station,	97.7°
Posterior " "	97.8°	Posterior " "	98.1°
Parietal " "	97.1°	Parietal " "	97.9°
Rolandic " "	96.3°	Rolandic " "	96.8°

She was unable to void her urine for the first time today. Thirty-two ounces were drawn off. From this time to the date of her death, just two months later, the catheter was daily required to relieve the bladder. She had not eaten anything for two days. Headache was excruciating. One-half of a grain of morphia was required each night to produce sleep, bromide of potassium making her wild and delirious. During the latter part of the day she frequently talked incoherently.

*15th.*—The temperature of the left Rolandic station was 5.5° higher than that of the right. The intermitting character of the respiration formed a very interesting feature of the case at this time. There was no gradual rise and fall of the respiratory movements as seen in the typical Cheyne-Stokes' respiration. There were twenty-eight shallow respirations per minute.

After four or five short and rapid respirations there was an interval of rest of eight or ten seconds; then after about the same number of respirations, came another interval of rest. During the next week, the pain in the head became more intense, and localized in the top of the head and right temple. The bowels failed to respond to various purgatives and enemata.

*22d.*—The muscles of the left side of the face showed but little loss of power, the pupils were of equal size. The left leg, as well as the left arm, was now entirely paralyzed. The muscular strength on the right side did not fail faster than is usual in one whose general vitality is being lowered. The conjunctiva of the right eye was congested and watery, the sight being but little impaired.

Temperature, right axilla 97.6°; left axilla 98.2°; pulse 68; respirations 12 per minute, and still of the abdominal type. The movements of the abdomen preceded those of the chest, and formed with them a see-saw-like, or to-and-fro, motion, the chest apparently not expanding until the end of inspiration and beginning of expiration.

*23d.*—Temperature of room 82°; of right axilla 98.9°; left axilla 98.2°; pulse 72; respirations 9 per minute.

#### Surface Temperature of the Head.

RIGHT SIDE.		LEFT SIDE.	
Anterior central station, 96.3°.			
Anterior frontal station,	95.9°	Anterior frontal station,	96.2°
Posterior " "	95.6°	Posterior " "	97.6°
Parietal " "	97.6°	Parietal " "	98.1°
Rolandic " "	97.0°	Rolandic " "	96.8°
Occipital " "	96.9°	Occipital " "	98.2°

The pulse, although only 72 per minute, was very weak, but regular in time and volume. The intermitting character of the respiration was more marked on this than on the preceding day. Three or four respiratory movements were followed by an interval of rest, lasting from twelve to fifteen seconds. The number of respirations did not exceed four in succession, nor were they, at any time, less than three. The interval, or rest, was not longer than eighteen seconds, nor was it less than twelve. The respirations, which were largely abdominal, had to be counted for two minutes to obtain the average number per minute. If the movements of respiration were looked for at the beginning of an interval, none were seen during the first quarter or third of the minute, and only three or four during the second quarter or third; whereas, during the latter part of the minute, there might be eight, six, or only three respirations. Thus:

Inter. Res.	Respirations.	Int. Res.	Int. Res.	Int. Res.	Int. Res.	Int. Res.	Respirations.
4	20	4	4	4	4	4	20
98.	158.	98.	158.	98.	158.	98.	120 sec.

It will be seen by observing the above tabular view that, if the respirations had been counted during one minute only, eight might represent the breathing frequency per minute; and if those paroxysms of respiration, if I may so term them, had been limited to three respiratory movements each, as they sometimes were, six, instead of ten, of the tabulated form, could have been set down as the number of respirations. This character of breathing, sometimes slightly increasing in frequency, continued until a few days before her death, when it changed to the so-called Cheyne-Stokes' respiration.

Sighing rarely occurred. The pupils were normal. The bowels had not been opened since the 11th instant, notwithstanding various purgatives and enemata had been given. Croton oil had been given by the mouth until it had produced griping pains, and an emesis of glairy mucus, yet it seemed to have no effect on the

bowels. The patient lived from the 11th of September to the 13th of November without having an evacuation from the bowels. During this period of two months and two days, or about nine weeks, she neither suffered from nausea, vomiting, nor distention of the bowels from gas or feces. Her diet for more than two months just preceding her death was almost exclusively of a liquid nature, she rarely taking any semi-solid food.

28th.—During the last few days the face had been turned to the right, and the head drawn toward the right shoulder. At this time she complained of great pain and soreness in the right and posterior portions of the neck. The parts were hard, swollen, and painful to the touch. An attempt, on my part, to straighten the neck greatly augmented her suffering. Pain was also complained of in the right eye and ear. The former was inflamed, and almost useless as a visual organ, and from the latter there was a constant discharge of yellow pus. The ocular inflammation involved more especially the conjunctiva and cornea. An ophthalmoscopic examination of the right eye was unsatisfactory on account of the hazy condition of the cornea and the uncontrollable movements of the eyes. The watch was not heard by the right ear, except on firm pressure.

October 3.—She was blind in the right eye and deaf in the right ear. The discharges from the eye and ear continued.

13th.—She remained quiet during the day, but required two grains of morphia to induce sleep at night. The hearing in the left ear varied; at times she heard tolerably well with this ear, and at others she was almost deaf. No improvement in the right eye and ear. A semi-choked disk appearance was noticed in the left eye, and vision was nearly gone. The left eye showed no evidence of external inflammation. No discharge was noticed from the left ear.

November 11, 5 P.M.—Temperature, right axilla 95.5°; left axilla 98.2°; pulse 104; respirations, 28 per minute. The right side of the body felt quite cool. The breathing had changed from an intermitting to an irregular character, and constituted what is known as the Cheyne-Stokes' respiration, except that there was no lull, during which the hand could not detect feeble movements of the thoracic wall. The respiratory movements gradually became shorter until they were almost imperceptible, then they gradually lengthened until a full inspiration was taken with considerable effort, followed by a blowing noise. Every paroxysm, or rise and fall of the respiratory acts, included about eighteen respirations. She neither saw nor heard, and was no longer able to speak or swallow. The saliva was wiped from the mouth by the attendant, or she made an awkward and ineffectual effort to do it herself, showing that she was probably not entirely unconscious. Her urine was passed involuntarily. No morphia had been required during the last few days. The neck remained in about the same condition that it was on September 23d. The muscles of the left side of the face were paralyzed, the mouth being drawn well over to the right side.

She died, exhausted, November 13, 1881, at 12.30 P.M.

Post-mortem examination, three hours after death, by Drs. Mills, Bissey, and myself.

Brain.—The venous sinuses and arteries were carefully examined, but were found to present nothing abnormal. No lesion of the membranes was discovered. The pia mater was unusually transparent (almost bloodless). The optic nerves were normal in appearance, and no perceptible lesion was detected in the other cranial nerves. No effusion. Entire surface of brain examined through the transparent pia mater before its removal, and no pathological condition was discoverable. On stripping the pia mater from the right hemi-

sphere, the external surface of the convolutions was still found to be intact. Before completing the process of removal of the pia mater from the right hemisphere a large quantity of a dirty grayish-white liquid suddenly escaped through a small opening at the bottom of a secondary fissure just in front of the upper extremity of the fissure of Rolando.

The right lateral ventricle was laid open by an incision through the lateral border of the corpus callosum. The surfaces of the intra-ventricular ganglia were healthy in appearance. The floors and roofs of the cornua showed no lesion. A longitudinal incision was made through the middle of the head of the caudate nucleus and the optic thalamus, deep enough to pass through these bodies and the lenticular body, just to the inner margin of the insular and sphenoidal cortical substance (gray matter). This incision exposed a small isolated abscess about one inch in length, three-quarters in depth, and one-third of an inch in width, involving the following parts from before backwards; the anterior two-fifths of the lenticular nucleus, and the adjoining portions of the external capsule and claustrum. The caudate nucleus, optic thalamus, and the entire internal capsule were not changed in appearance. The posterior three-fifths of the lenticular nucleus and a very narrow strip of its anterior two-fifths above the abscess were intact. Vertico-transverse sections through the pre-frontal and occipital regions showed no lesions. Further transverse sections revealed a nodulated mass and large abscess of the centrum ovale of the postero-frontal and parietal lobes.

The nodule was about the size of a large hickory-nut. It involved the white matter and the under portion of gray matter at a point corresponding externally to the superior parietal lobule or convolution, a little anterior to the middle of the inter-parietal fissure. Its anterior extremity just grazed the middle portion of the gray matter of the ascending parietal convolution. The nodule was apparently firm. The abscess extended on all sides of the irregular body, and the exact limits of the former were determined by transverse sections to be as follows: Its anterior extremity reached a point in the centrum ovale corresponding to a plane, just in front of the caudate and lenticular bodies, externally through the anterior halves of the first, second, and third frontal convolutions. Its posterior extremity reached a point in the centrum ovale of the parietal near the plane of the parieto-occipital fissure. The abscess in its anterior half involved white matter only, but close up to the gray substance. Its posterior portion involved the white matter, also the inner part of the gray substance of the adjoining convolutions. The posterior one-fourth of the abscess involved the gray matter to the greatest extent, and approached near the surface at the most posterior part. It had, therefore, destroyed the centrum ovale directly in relation with, *a*, the posterior parts of the first and second frontal convolutions; *b*, the middle regions of the ascending frontal and ascending parietal convolutions; *c*, the middle and lower portions of the superior parietal convolutions; *d*, the upper portion of the inferior parietal convolution. The gray matter destroyed was chiefly in the anterior parietal convolution and the superior parietal lobule. The entire length of the abscess was between four and five inches.

The left hemisphere showed no pathological lesions.

Thorax.—Heart and large vessels were normal in appearance. The apex of the left lung contained four cancerous nodules, varying in size from that of a lima bean to a horse-chestnut. The apex of the right lung was the seat of a nodule about the size of a hickory-nut. The middle and lower portions of the lungs were anæmic. The pleuræ were normal, except at the apices of the lungs, where slight adhesions were



formed over the nodular growths. Slight effusion in the left pleural cavity.

**Abdomen.**—The uterus, ovaries, and ligaments of the womb were the seat of fourteen cancerous nodules, most of which were not larger than a hickory-nut. The liver, spleen, kidneys, and pancreas were anæmic, but free from cancerous growths. The stomach was empty, pale, and contracted, but no induration of its walls was discovered. The upper and lower bowels contained a slight amount of fecal matter scattered throughout their entire extent. The contents of the bowels were soft. No evidence of intestinal obstruction could be detected. The rectum was empty.

**Microscopical Appearances.**—The nodule in the brain was composed of bloodvessels, brain-substance, extravasated blood, and blood-pigment. No cells of a suspicious character were seen.

**Remarks.**—The abscesses cannot be attributed to the presence of a cerebral tumor. The history of the removal of a malignant growth from the left breast one year before, naturally suggested to me the probability of a similar one in the brain. No local interference with the venous or arterial circulation of the brain was detected at the autopsy. As causative agents, apparently nothing beyond a profound lowering of the vital forces and the blood infection attendant upon the presence in the system of several cancerous masses were found. If in these lies a sufficient cause, I am at a loss to know why abscess of the brain is so infrequently found in connection with cancer of other portions of the body, or why it is not more generally associated with general anæmia.

Remittent respiration is referred to by Hughlings Jackson (*Reynolds' System of Medicine*), although he does not give it that name, and Cheyne-Stokes' respiration by nearly every recent author on nervous diseases, but I find no allusion to the peculiar intermittent variety found in this case, in which three or four respiratory movements of equal length and depth were followed by distinct intermissions varying in length from fifteen to eighteen seconds.

Just before the patient's death, when the respiration approached the Cheyne-Stokes' character, there was no period or interval of several seconds duration during which the respiration intermitted, but the movements were continued regularly, increasing or lessening as the efforts at respiration reached the maximum or minimum.

One or more cases with respirations differing from the Cheyne-Stokes' similarly to this may be found described in a joint paper presented at the Northern Medical Society of Philadelphia, by Drs. Mills and Ott. (*Phila. Med. and Surg. Reporter*, July 2, 1881.)

The abdominal respiration noted in the clinical history may be imitated by any one in health by first voluntarily expanding the abdomen, then allowing the chest to be inflated subsequently, the expiratory movements taking place in the order of time in which the inspiratory were effected. It differs from the form of abdominal breathing referred to by Hughlings Jackson in connection with cerebral hemorrhage. It is a grave omen, and is most commonly found in cases of great prostration, as in typhoid fever and shock, or it is associated with certain brain diseases attended by a similar condition of the vital forces.

The inflammatory changes that occurred in the right eye and ear, with the subsequent loss of vision and hearing in these organs, cannot be accounted for by any appreciable lesion in the pons, medulla, or at the base of the brain adjacent to the optic nerve. The well-known experiments of Waller, Bernard, and Brown-Séquard, on the effects of stimulation and paralysis of the cervical ganglia of the sympathetic nerve aid us in attributing the trophic changes found in the eye to the

local trouble present in the right side of the neck, which preceded the affection of the organs of the special senses. I regret that we failed to examine the indurated tissues of the neck, and to ascertain the condition of the sympathetic nerve and ganglia in this region.

The general cerebral and thermometric records of this case present some points of interest.

**General Thermometry.**—According to the physiological experiments of Hitzig, Eulenberg, and Landois (quoted by Mills, *Phila. Med. Times* for January 18, 1879), the heat-controlling centres are situated in the cerebral cortex of the motor regions around the fissures of Rolando, especially in the ascending convolutions. Usually, but not constantly, destruction of this area gave rise to increased, and irritation produced lessened, temperature in the extremities of the opposite side of the body. In the present instance the large abscess involved to some extent the supposed thermic area of the right side. Comparative observations of each axillary temperature were made on seven different occasions, and were as follows:

		Right Axilla.	Left Axilla.
September 8,	.	.	99°
"	12,	.	99.4°
"	13,	.	98.4°
"	14,	.	98.2°
"	19,	.	98°
"	22,	.	98.2°
"	23,	.	98.2°
November 11,	.	.	98.2°

The temperature of the right or non-paralyzed side of the body only once exceeded that of the left, when the thermometer registered .7° higher in the right than in the left axilla. The temperature of the left armpit ranged from .5° to 3° higher than that of the right. During the first shock to the system, produced by the abscess, and just before death, when paralysis was most complete, the difference between the two sides of the body heat was greatest, being 3.4° at one time, and about 3° at another.

**Cerebral Thermometry.**—I shall only refer to the extended observations of Broca, Gray, and Maragliano, and Sepelli, on cerebral thermometry in health and disease. Their conclusions are in harmony with each other, and their utility has been demonstrated by observations made on at least two cases of tumor of the brain, one by Dr. Charles K. Mills (*Phila. Med. Times*, Jan. 18, 1879), and the other by Dr. Landon Carter Gray (Hamilton's work on *Nervous Diseases*, 2d ed., page 22), who was the first in this country to investigate the surface temperature of the head in health. Dr. Gray found the average normal temperatures of the stations on the left side of the head to be for the frontal, .65°; for the parietal, .85°; for the occipital, .72°, higher than those of the corresponding stations on the right side. He gave as the average normal temperature of the right frontal station, .93.71°; of the left, .94.36°; of the right parietal, .93.59°; of the left, .94.44°; of the right occipital, .91.94°; of the left, .92.66°. Variations of more than 1.5° he considered suspicious of disease at that point, and of more than 2° strong evidence of a pathological condition.

Comparing the results of the surface temperatures of the head made on the case reported at length in this paper with those reported by Gray and others, we shall find several points of difference. The temperatures were from 2° to 4° higher than those obtained on the heads of healthy subjects, although the axillary temperatures of this case, taken at the same time, were normal or subnormal. The temperatures at the several stations on the left side of the head exceeded those on the right by about .5°, which is nearly in accord with

the normal difference. The temperature at the left Rolandic station was  $.2^{\circ}$  lower than that of the right on one occasion only. With this exception, the temperatures on the left side were the highest. On September 23, when paralysis of the left side of the body was complete, the surface heat at the left posterior frontal station was  $2^{\circ}$ , and at the left parietal  $1.5^{\circ}$  greater than at the corresponding stations on the right side. Before complete paralysis had taken place in the left leg, there was nearly an equal increase of heat at the frontal and posterior stations; later, when the leg was powerless, the temperatures of the posterior stations exceeded their normal more than did those of the anterior. In the observations on cerebral thermometry in connection with brain tumors made by Drs. Mills and Gray, the stations nearest the growths, both of which happened to be on the right side, gave the highest average increase of temperature.

The area to which the occluded vessels in embolic hemiplegia are distributed is said to have a subnormal temperature.

I am not aware that the results of any observations of the surface temperature of the head made on persons suffering from abscess of the brain have been reported. No valuable conclusions can be drawn from observations made on a single case; especially is this so when the surface temperatures of the head are not more frequently taken than in the history of the one just reported. In health, the head temperatures are from  $4^{\circ}$  to  $6^{\circ}$  lower than that of the axilla, being lowest posteriorly. In the present case, with a normal or subnormal axillary temperature, the head temperatures were elevated from  $4^{\circ}$  to  $6^{\circ}$  above their normal, the occipital, in one instance, being the highest, equalling the axillary, and exceeding its own in health  $6^{\circ}$ .

Dr. Allan McLane Hamilton, of New York, has reported the results of his observations on a case of meningitis, in which the occipital temperatures exceeded those of the other regions of the head. (*Ibid.*)

It is doubtful whether the local temperatures of the head in abscess of the brain will aid us in locating the disease to any particular region, but if the results of the observations already made on cerebral thermometry in brain tumor be sustained by future investigations, the surface thermometer may help us in differentiating abscess from tumor of the brain.

In a case of brain trouble, in which the diagnosis is between tumor and abscess, a limited surface area of one side (especially the right) of the head with a temperature considerably elevated above the heat of the surrounding parts, would point to tumor; whereas, an elevation of the entire cerebral surface temperature would indicate abscess.

The direction of the destructive lesion in the brain, if we may judge by the progress of the paralysis, was from before backward, showing that the nodule occupied the region last involved, instead of the first, as would have been the case if it had been caused by an embolus, and had in its turn given rise to the abscess.

CASE II. *Abscess of the brain following chronic meningitis: sudden death.*—On the notes of Dr. Dennis the history of the following case is based:

Mr. G. S., æt. 56, shoemaker, served in the German army, and when a young man led an irregular life. He presented no marks of syphilis, and no history of his having suffered from that disease could be ascertained. He had always been a moderate drinker of beer, but never indulged in the stronger alcoholic liquors. He was a large, heavily built man, and, with the exception of occasional headaches, had enjoyed good health until the latter part of the year 1880, when the loss of his wife, followed by other domestic unhappiness, seemed sufficient to disarrange an already illy-arranged nervous system. His temper had been

irritable for many years, but now he became subject to frequent outbursts of passion, during which he would vent his spleen on any one who chanced to be near him. His memory became very treacherous, often getting confused in his business, and even at times being unable to remember the day of the week. His headache became constant and more severe.

During the spring and early part of the summer of 1881, he had what he called "rheumatic attacks," during which, while attending to his usual duties, he would be seized suddenly by a sharp pain in the course of the left sciatic nerve, followed by immediate paralysis of the left arm and leg, compelling him to sit down to save himself from falling. During the attacks he did not lose consciousness. The paralysis never lasted longer than a few minutes, power of motion returning and seeming to be as good as before the shock. The frequency of the hemiplegic seizures, two or three attacks often occurring weekly, depended upon causes giving rise to outbursts of passion. Sudden changes of weather were apparently associated with the nervous disturbance.

His symptoms remained unchanged until the latter part of October, when, in a fit of anger, he fell to the floor, frothed at the mouth, and became convulsed. No paralysis followed the convulsion, but the headache steadily increased, compelling him to take to his bed. As on this, so on every succeeding day during his entire illness, he remained in bed only a portion of the day. The head-pain now constant was so severe that it prevented continuous sleep, and from short naps which he would occasionally get, he would be awakened suddenly by violent exacerbations of pain. Two weeks before his death, Dr. Dennis was requested to take charge of the case. His temperature at this time was  $99.5^{\circ}$ ; pulse 70 per minute, full and strong; respirations natural; appetite capricious, tongue coated, stomach intolerant, and bowels obstinately constipated. Urine scanty, high colored, and free from albumen, was voided voluntarily until a short time before his death, when it was occasionally passed involuntarily. The skin was slightly jaundiced. He complained of occasional chills, and was very sensitive to changes in the atmosphere. Nocturnal delirium soon began. He was very restless, saw strange things and people in his room, and would occasionally rise during the middle of the night and awake the whole family, telling them that it was time to get up for the day. At times his mind seemed to be a blank, he could not tell the day of the week, and would frequently be unable to distinguish day from night. On other occasions his mind was clear, but during these lucid intervals he could converse intelligently and connectedly for a few minutes only, thought ceasing to be generated, when a vacant stare would be his only reply to questions which a few minutes before he had answered promptly and correctly. Impressions were persistently and obstinately adhered to, and any attempt at persuasion to the contrary was not calmly received. His headache, principally frontal and right-sided, was now sharp and lancing, requiring hypodermic injections of morphia and atropia to relieve it. The orbital and other branches of the fifth nerves were very sensitive to pressure. His temperature during Dr. Dennis's attendance, though usually above the normal, reached  $100^{\circ}$  Fahr. only on two or three occasions. The muscles of the left arm and leg were decidedly weaker than those of the right, yet sufficiently strong in the leg to support his weight for a short time. Turning in bed was difficult. When the left arm unaided was held at right angles with the body a decided muscular twitching began. Occasional muscular twitchings took place when the arm was passive. He thus continued, gradually getting worse, until November 25th, about five

weeks after his giving up work, when Dr. Dennis requested me to see him in consultation.

When I first entered the room he seemed bright, and conversed intelligently. He had not talked long, however, before he began to hesitate in his answers, appearing to have difficulty in understanding me, and being more puzzled in framing answers to my questions. Soon he was unable to form more than one or two words of a sentence, and finally uttered a meaningless "yes" or "no," or stared vacantly, when spoken to. Pupils were small and equal in size, brows were contracted, and he complained of great pain in his head. The eyes were very sensitive to light, making it extremely difficult to make an accurate or satisfactory ophthalmoscopic examination. The acuteness of vision and the condition of the other special senses could not be ascertained. The retinae were found to be slightly hyperæmic, and the optic disks somewhat swollen. No muscle or groups of muscles were paralyzed, but those of the left arm and leg were weak, and an attempt at coördination produced a muscular tremor. The left side of the face was apparently less expressive than the right. The heart, lungs, liver, and kidneys showed no evidence of disease. Temperature was 100°; pulse 68, and full; respirations 16 per minute. An opinion was given that the man was suffering from chronic meningitis of several months' duration, and that a recent complication of softening or abscess of the brain had taken place.

The next day Mr. S. was feeling so comfortable that he got up, dressed himself, and without assistance went down stairs from the third to the first floor to dinner. After eating he was helped to his third-story room. He expressed himself as feeling tired and sleepy, and lay down to rest. He was left alone about one hour, when one of his daughters looking in his room found him on the floor, where he had fallen in getting out of bed. The left side was now found to be entirely paralyzed. He was placed in bed and left alone. Shortly after this, when looked after, he was found asleep and snoring loudly. As his repose was supposed to be a natural one, he was not immediately disturbed. About 6 P.M. the daughter, thinking it strange that nothing was heard from her father, went into his room and endeavored to arouse him, but to her surprise found him dead.

**Post-mortem examination** thirty-six hours after death. **Brain.**—The dura mater over the entire extent of its bony attachment, was inflamed and firmly adherent to its osseous envelope. At the base of the brain the external membrane was so closely attached that it could be separated from the bone only in piecemeal by the scalpel. The cranial nerves were apparently uninvolved in the diseased process. No abnormal quantities of fluid were found in the subarachnoid space. The bloodvessels of the pia mater were engorged, and the membrane was slightly adherent to the brain substance. The entire external surface of the brain appeared nearly normal, presenting no gross lesions of softening. Superficial portions of convolutions in the neighborhood of the greatest amount of inflammation were examined under the microscope, and found to be in nearly a normal condition.

An abscess was found on the right side involving chiefly the centrum ovale of the pre-frontal region, but also to some extent, in its middle part, the inner layers of gray matter of the first, second, and third frontal convolutions. On attempting to localize exactly the posterior limits of the abscess, it was found that a vertico-transverse section through the anterior lobe made just in front of the pre-central fissure externally, and striking the anterior extremities of the ganglia internally, just grazed its posterior limits. The abscess extended forward to within one inch of the anterior ex-

trinity of the lobe. Very few, if any, of the white fibres from the ascending frontal convolutions were involved. At the posterior and interior boundaries of the abscess a bloody nodulated mass two-thirds of an inch in its greatest dimensions was found. Other portions of the brain were apparently healthy. No emboli or thrombi were found.

The abscess did not communicate with the lateral ventricle, nor open upon the external surface of the brain to account for sudden death.

**Microscopic examination** of the nodulated mass and adjacent parts showed no new cell formation tissue; the nodule and the parts around exhibited nothing besides disintegrating brain tissue with its bloodvessels, and a few blood corpuscles.

**Remarks.**—We cannot boast of our knowledge of the functions of the antero-frontal lobes, yet pathology, and later, physiology, have from time to time thrown some light on this obscure subject. The "crow-bar case" of Bigelow, the bullet wound related by Trousseau (quoted by Ferrier), the other cases mentioned, analyzed by Charcot and Pitres (reviewed by Ferrier, and quoted by Mills, *Phila. Med. Times*, Jan. 18, 1879), the tumor of the right antero-frontal lobe presented to the Pathological Society of Philadelphia, by Dr. C. K. Mills (*Transactions of Phila. Pathological Society*, vol. ix, page 106), and the lesion just described in connection with Case II. of this paper, in all of which the antero-frontal lobe was destroyed to a greater or less extent without any paralysis attributable to the lesion in this region, lead us to accept the conclusions of Charcot and Pitres, that motor disturbances of the slightest character do not necessarily follow lesions in the antero-frontal regions.

For the light physiology has shed upon the function of this region of the brain, I quote from Dr. Mills' article on tumor of the brain (*Phila. Med. Times*, Jan. 18, 1879): "Ferrier, *Functions of the Brain*, p. 230, in his experiments on the antero-frontal regions of the brain of the monkey, generally obtained negative results. Electrical irritation usually caused no special manifestations. Removal or destruction was not followed by any definite physiological results. The animals operated on, however, while not actually deprived of intelligence, had apparently lost the faculty of attentive and intelligent observations. When considering the hemispheres physiologically, Ferrier argues also that the power of fixing the attention and concentrating consciousness depends on inhibition. He shows that if the centres of inhibition, and thereby the faculty of attention, are weak, or present impulses unusually strong, volition becomes impulsive rather than deliberate."

It will be remembered that the patient in Case II., where the lesion was in the antero-frontal lobe, presented symptoms in accord mainly with the physiological experiments of Ferrier. The man was emotional and passionate, and his power of attention was weak and of short duration. He seemed at times to lose will power. Only temporary paralysis was observed, and this always after some fatigue, which may have induced some restraining influence from other portions of the brain, or what is probably more correct, as some of the fibres connecting the motor region of the brain with the muscles of the arm and leg were destroyed, the remaining healthy fibres became exhausted from overwork.

Among the other interesting features of the second case are, the sudden death and the patient's ability at times to walk well, although at others the paralysis was so extensive that he was not able to stand.

That he was able to walk at all was apparently due to the fact, sustained by the post-mortem examination, that not all of the fibres through which motor impulses



passed from the brain to the muscles of the leg were involved in the destructive process. When he was resting, a few fibres, for a short time, could do the work of a greater number.

If this view be correct, it will enable us to explain the cause of sudden death, although there was neither hemorrhagic apoplexy, nor bursting of the abscess into the ventricles, or on the surface of the brain. The unusual strain that he put upon his crippled brain a few hours before his death, in descending and ascending two flights of stairs, and in sitting up to eat his dinner, so exhausted his nerve centres that its effects came like a shock from a severe cerebral hemorrhage. The occurrence of the hemiplegic seizures may be accounted for, probably, by the sudden overloading of the congested vessels of the brain during his fits of anger.

**CASE III.—Abscess of the brain; gangrenous inflammation of the right Sylvian artery, and occlusion of some of its branches; facial erysipelas; pneumonia in the left lung.**

J. R., male, aged about forty, laborer in a sugar refinery, had been sick and delirious for several days, was brought into the St. Mary's Hospital during the past winter, in an unconscious condition. His previous history could not be ascertained. His respirations were rapid and abdominal; pulse small, weak, and irregular; temperature not taken. No urine was obtained for examination. His face was swollen and of a dark erysipelatous hue. The swelling around the eyes was too great to admit of an examination of the pupils. The facial swelling and comatose condition prevented the detection of local palsies, if such existed. He did not regain consciousness, but died about six hours after his admission.

**Autopsy** eight hours after death.—The abdominal cavity was not opened. The entire left lung was in the second stage of pneumonia; the right lung and the heart were in nearly normal conditions. Only slight quantities of serous fluid were found in the pericardium and right pleural sac; considerable fibro-serous effusion was found in the left pleura.

**Brain.**—The dura mater was slightly congested, but there were no evidences of decided inflammation in it. The pia mater covering the convex surfaces of both hemispheres, and that beneath the right, was opaque. Its bloodvessels were highly engorged, and deposits of lymph and pus were found. At and just posterior to the right Sylvian fissure there was a considerable quantity of pus, and sufficient lymph to so mask the structures at this point as to make them look like one mass of inflammatory products. The trunk of the Sylvian artery was almost black, its calibre lessened, but apparently not entirely obliterated. Some of its secondary branches, especially the lower ones from the parieto-sphenoidal and sphenoidal arteries were occluded and seemingly gangrenous. After carefully removing the pia mater, the convolutions and brain substance of the left hemisphere appeared nearly normal. The under and external surfaces of the right temporo-sphenoidal lobe, from its anterior tip to its junction with the occipito-parietal lobules, were softened to the depth of about an eighth of an inch. A superficial abscess or a mass of softened brain substance, about one inch in all its dimensions, occupied the anterior extremities of the first, second, and third temporo-sphenoidal lobules. The contents of the abscess were, in the centre, a watery fluid, surrounded by broken-down brain substance and blood constituents, and, on the outside, a thick layer of pus and other exudative matter. The cranial nerves were but little encroached upon by the inflammatory deposits. Nothing special was noticed in the sinuses of the brain besides their blackened and engorged appearance. The ganglia were apparently normal.

The patient was under observation only six hours before his death. The circumstance of his death was investigated by the coroner, which necessitated great hurry in examining the brain and its membranes and sinuses.

DR. CHARLES K. MILLS said: A careful examination of the cerebral sinuses might have thrown some additional light upon the third case. It was of great importance in all cases of abscess of the brain to investigate the condition of the sinuses of the dura mater. Abscess and thrombosis were not infrequently associated, and sometimes held to each other a causative relation. In the account of the condition of the patient (Case III.) it was stated that his face was swollen, and of a dark erysipelatous hue, the swelling around the eyes being too great to admit of an examination of the pupils or of the interior of the eyes. The erysipelatous appearance may have been the pseudo-erysipelas which accompanies some forms of cerebral thrombosis. The ophthalmic veins end in the cavernous sinuses. These veins have also a communication with the veins of the face. The facial vein, beginning on the anterior portion of the head, descends about the middle of the forehead, as the frontal vein, to the root of the nose, and then is continued downwards around the angle of the eye, under the name of the angular vein. This angular vein communicates with the ophthalmic vein. Hence it will be seen how swelling of those veins outside of the skull, which insinuate with the sinuses within, may become the most striking and positive signs of obstruction of the sinuses. Oedema of the eyelids and face, and congestion of the eyes, mean venous stasis in the parts drained by the ophthalmic veins. These phenomena were present in Dr. Eskridge's third case.

These three cases of abscess of the brain, well studied and described, constitute a valuable addition to the literature of intra-cranial diseases.

## CORRESPONDENCE.

### LETTER FROM BERLIN.

#### *The Gesundheits-Amt; its Workers and its Work.*

NUMBER 57 Louisen Strasse is a plain, substantial building, not differing in the least from ten thousand other plastered bricks in this city, and found by the stranger only by special direction to it. It is in fact an ordinary house, rented and used by the Gesundheits-Amt or Health Office of the State—a creation of Bismarck's within the last two years. Yet in this unpretentious building was worked and from it was published the discovery which marks an epoch in the history of our science; to wit, the parasite of tubercle by Dr. Robert Koch.

When a year ago Dr. Finckelnberg was called away to take a higher place, no name seemed so prominent in this field among the younger workers of the land as that of Dr. Koch, then in practice at Wollstein, a little town about midway between Breslau and Berlin. He had already made a reputation in Parasiten-Kunde by his work upon milzbrand and the surgical infections, but it was confined chiefly to among his associates in this particular field of work. It seemed, however, to Dr. Struck—Ober-Geheimer Medizinal Rath is his justly earned title—the present Director of the Health Office, that Dr. Koch was the man for the place, and accordingly rather he was called to take his place as a Regierung's Rath among several other workers in the field of hygiene or public sanitation. How fit the selection was has just been proven by the publication of the discovery of the parasite of tubercle, which

implies the unveiling, we might say, of the greatest mystery of our age.

The Gesundheits-Amt here differs in its methods of work as widely as in its construction and arrangement from any ordinary health office in our country. Many poisons find their way into it, and many are discovered in it, but the poison of politics never pollutes its walls. Whether the Liberal or Conservative is triumphant, it will have no effect upon the occupants of this place. Hence appointments are permanent and are salaried, too lightly it is true, but nevertheless at such a rate as to relieve its employes, if such a term is proper, from the vulgar struggle for subsistence. Hence, too, its work is purely scientific, and the publications regularly issued from it rank at once as authoritative upon the subjects they discuss. The various rooms in the house are differently occupied by chemists, pathologists, etc., each having his own set of compartments and assistants. Just across the street is the Charité, whence to derive any kind of material for examination, and adjoining on the south is the large veterinary college with a full corps of teachers to supply material of its kind.

Dr. Koch's apartments proper consist of a suite of connecting rooms, a kind of flat, as it were, in which there are at present five workers besides himself. These workers are representatives, or, I might say, delegates, from different departments of the house or from foreign governments. For instance, there is one here now from the Saxon, one from the Hungarian government, and one from the German marine service. Each one, like Dr. Koch, has his own desk, separated from the rest by projections of shelves and drawers, as in a well-filled library, covered and filled with specimens and tools. Perhaps the most striking furniture of the rooms is the array of test tubes; by the hundred they are here, each partly filled with sterilized substances, gelatine or blood, and each stopped with a plug of cotton which has become brown in the process of sterilization. The tubes contain the parasites of many known and described, and many as yet undescribed, diseases of animals, growing in the culture substance, and abstracted daily for inoculative experiments, or for further cultivation in fresh material. These tubes crowd the shelves and stands in every direction, but never in the least confusion, as each is distinctly labelled as to contents and date of preparation.

In the centre of each worker's compartment, at a window, of course, stands, with all its appurtenances, a first-class microscope, mostly of the manufacture of Zeiss, of Jena, one only of Hartnack, of Potsdam, who has only now perfected his instrument with the oil immersion lens and Abbé illumination apparatus, necessary factors for this kind of work. A first-class instrument of this class costs here, I may add in a parenthesis, \$125 to \$150, Hartnack's being now just as good as Zeiss's, and a little cheaper. This instrument so arranged is a *sine qua non*. Without it, it is not impossible, it is true, but it is not easy to define the bacilli of tubercle when but few are in the field.

These delegates, by the way, are not students of medicine in the ordinary sense of the word, nor are they practitioners, but men of science, all of medical science, of course, who expect to devote their lives to this kind of work. A mere association with this class of men is an education of itself, for it is the pure school of observation. Nothing whatever is taken for granted; nothing is inferred or deduced or reasoned out or speculated upon. Everything is simply examined and described. Dr. Koch is the referee in questions of doubt, and, so far as I have been able to see, he can determine any ordinary matter of doubt at a glance. For instance, two of us worked in vain a whole day

over the tubercle parasites in a specimen of sputum, and finally in despair called him in. He noticed at once that the shade of one of the color tests was not correct, and at once declared that we had used an alcoholic instead of an aqueous solution, which was true, and which was the cause of failure. Of course there is nothing new or strange in this quick detection of the source of error, as it is the natural consequence of the study of years, of one, at least, with the same or similar reagents.

Work commences in the laboratory at 9 A. M., adjourns at 3 P. M. for dinner, is then resumed to continue until 5. But on Sunday the work ceases about noon. The Director of the office makes a general assignment of the work, but each man is left pretty much to himself. So one man will be found engaged with tuberculosis, another with milzbrand, a third with the organs of some animal which has died at the veterinary stables, another with the analysis (not chemical, for this takes place elsewhere, but mycological) of drinking water, or of soil, perhaps, sent in from elsewhere, etc. To-day there is an interruption, as Drs. Koch and Gravit have been sent to Wittemberg to study the etiology of an epidemic of typhoid fever which is just announced, but the work by the rest goes on just the same.

Just how this work is done, and with what result, I propose to write again. Only this much I ought to say now regarding the bacillus tuberculosis, namely, that it is a fixed fact, and is capable of the most complete and convincing demonstration. Dr. Koch was called before the Emperor, just before his departure to Ems, and I have it, from outside parties, that the deepest interest was shown in the demonstrations.

J. T. W.

BERLIN, June 25, 1882.

#### LETTER FROM CANTON.

##### *Medical Progress in China.*

THE Sleep of Ages rests upon the doctors of China. How deep that sleep is can be imagined if one will go back to the dark ages of Europe, when superstitious ignorance controlled the administration of medicines. Accustomed to regard the Chinese as an inferior race, we may not wonder that they are satisfied with the crude notions of their ancestors of a hundred generations back.

But it is a question yet to be decided whether they are the inferior race. In literature, the arts, and commerce, they take the lead of all the nations of the East, and in diplomacy their statesmen have shown themselves a match for the best men they have met from Europe and America.

Moreover, a few thousands of ignorant peasants have gone to Australia and California, taken up the industries of the people, and in a quarter of a century have monopolized some of the most important trades and occupations. Not only so, but the statesmen of the two great Anglo-Saxon nations have been driven to their wits' end to devise means by which to protect the so-called superior race from the encroachments of these heathen peasants. The recent measure adopted by Congress will only add to the confusion of California's Senators and Representatives. Thus far, against all disadvantages, the illiterate Chinaman has the best of it, and will continue to hold his ground as long as he is a sober, reliable, industrious, painstaking workman, and his competitors waste their money, strength, and character in the drinking saloons.

Hitherto it has been for the most part peasants who have come in competition with the laborers of foreign countries; but other classes are slowly coming forward. Chinese merchants are beginning to adopt foreign modes of doing business. Steamships and insurance companies are established by them, and the advan-

tages of the telegraph are not neglected. The professions of law and medicine have their representatives, and it is among the possibilities of the future that members of these professions in Europe and America may have for competitors enterprising Celestials who, imitating their more illiterate countrymen, shall push their way into those countries where they will find more activity, more life, and more dollars.

There is now in Hong Kong a Chinese who practices in H. M. Courts, and another has just returned to that colony from England who has taken degrees in both law and medicine, and is qualified, under English law, to practice either profession or both, as he pleases. For a number of years the position of physician to the European community in this city was held by a Chinaman, the late Dr. Wong Fun, who took his degree in Edinburgh.

The question as to which is the superior race cannot be finally decided until the educated classes of China have adopted our professions, and stood in competition with our best men in the great arena of life.

In view of the national and individual characteristics of the people, we cannot but wonder that the healing art should have remained very much as it was ages ago. Experimental medicine has nowhere had such vast opportunities. During all these centuries innumerable doctors, having untold millions of willing patients, have administered to them all the medicines which the three kingdoms of nature could furnish. We cannot cease to wonder that empirical medicine, under such circumstances, has so little to offer to the world, as valuable additions to our means of combating the diseases common to the human race.

The explanation is not difficult to find. Among all their wise men and sages, they have had no Bacon or Locke to teach them the true mode of investigation. With blind reverence for antiquity, the *very multitudes* of the people have destroyed individuality of character, and fixed custom in medicine as an unchangeable law which no one was strong enough to set aside. Of course without anatomy and physiology it was impossible to have anything like a scientific system. And the native faculty have yet to make a beginning in these departments.

While the sleep of ages still rests undisturbed upon the great mass of the doctors of the Empire, the people are beginning to be aroused by the influences brought to bear on them by contact with Western nations.

The translation of medical books has placed within the reach of scholars the outlines of the several branches of study in the medical course.

The military and civil hospitals established by the English and French in such places as Hong Kong and Shanghai, and the missionary hospitals in successful operation in more than a dozen cities of the Empire, have presented to the people the advantages of treatment as practised in these institutions.

The attempt has been made to imitate these institutions, and they have spent money liberally in erecting buildings in Hong Kong and Canton, but beyond the practice of vaccination there is no disposition to give up native practice or adopt foreign.

A few young men have acquired a knowledge of Western medicine and surgery, and some of these have made reputations which gave them a high standing. The first and most prominent of these was Kwan Ato, a pupil of Dr. Peter Parker, the founder of medical missions in the East. He died some years ago, in this city, leaving quite a fortune acquired by his practice. He was the first, and for many years the only, Chinese who ventured to perform surgical operations. In ordinary cases, requiring little anatomical knowledge, he was a skilful surgeon, and he did much to recommend Western surgery and medicine to the people.

There are many others who have acquired considerable practical knowledge of medicine and surgery in the various missionary hospitals now in operation, and there will be a regular increase in their numbers as better facilities for their instruction are placed before them in medical schools, equipped with qualified instructors, suitable apparatus and text-books up to the recent advancement of the various departments. It is the day of small things with my medical class of a dozen pupils in a city of one million inhabitants, but some of my successors may stand before classes as large as any now seen in the cities of Europe or America.

J. G. K.  
CANTON, CHINA, May, 1882.

#### MEDICAL EDUCATION IN OHIO.

To the Editor of THE MEDICAL NEWS.

SIR: I desire to present the position of the Columbus Medical College, in relation to the charges made against the said College by Dr. James E. Reeves in his address before the West Virginia State Medical Society. This I am impelled to do by an editorial notice in your journal of July 8, 1882.

In January, 1882, A. M. Dent, of Weston, West Virginia, applied for admission into the Columbus Medical College as a candidate for graduation. He stated he had just been rejected on his examination before the State Board of Health in West Virginia, and that this rejection would destroy his practice, and be ruinous to him. He was informed that but five or six weeks of lectures would be given before the close of the term, and that no concession in his behalf could be made in the matter of examination, and if he became a candidate he would be obliged to pass the same examinations in all branches which the other members of the class submitted to in order to receive their diplomas.

He said all he asked was the privilege of making the attempt, and if, during the remainder of the term, he could not, by hard study, pass the examination, if rejected, he would make no complaint; all he desired was to be placed on the same ground as the rest of the class.

A. M. Dent had attended a course of lectures in 1874 or thereabouts in Starling Medical College while three of the present members of the faculty of Columbus Medical College held chairs in that College, and he exhibited the tickets of the College in evidence thereof. He presented his certificate of membership of the West Virginia State Medical Society. Before he could become a member, being a non-graduate in medicine, he was examined as to his fitness for membership of said Medical Society by the Censors of the Society, and by them recommended and was elected.

In 1879, he presented a paper before the West Virginia State Medical Society, which may be found in the Transactions of said Society for that year.

He presented the certificate of the West Virginia State Medical Society, showing that he had been elected or appointed a delegate from the said Medical Society to represent it in the American Medical Association, which met in 1881 at Richmond.

He had also during the same year been appointed one of the Trustees of the West Virginia Lunatic Asylum by the Governor of the State.

He brought the certificate of two prominent and reputable physicians of West Virginia, testifying to his regular professional standing, his general reputation as a physician, and good social position in the community in which he lived.

In view of all the above-mentioned circumstances, he was admitted to the College as a candidate for graduation. At the close of the term he was examined with the rest of the class, orally by some chairs, in writing by others.



In practice of medicine, 100 being perfect, his grade was 75, in therapeutics 80, in obstetrics 90, in surgery "very good." His grades in anatomy and physiology I cannot give. The course in chemistry had closed when he entered the school; whether the professor in this department examined him or not, I do not know.

The Professor of Surgery was a member of the State Board of Examiners who passed upon the qualifications of the regimental surgeons of Ohio, during the late war. He says of hundreds of papers he then examined, the average was no better than Dent's final examination for the degree.

Under these circumstances the Faculty of Columbus Medical College believed they were justified in granting A. M. Dent a diploma, nor do they believe they have done harm to the profession by admitting A. M. Dent to the profession, and its honors and privileges under the diploma of the Columbus Medical College.

As to "short time" in the course of medical lectures, the members of the Faculty are aware that it has been the custom of many colleges in the country to use their discretion in the matter of insisting upon "full time" of attendance upon lectures, when conferring degrees, when good cause could be shown for favor in this direction.

A. M. Dent was not guilty of the anatomical errors mentioned by Dr. Reeves; on this point the certificate of the Professor of Anatomy which Dent has is conclusive. Those making the errors mentioned are unknown to the Faculty, for no such examinations were reported to them. The entire Faculty signed the diplomas; no objections to doing this were made by any member of the Faculty.

Such is the position of the Columbus Medical College in relation to the charges made by Dr. J. E. Reeves. The College has done no intentional wrong. The College will ever insist upon the same standard for the acquisition of its diploma which all other medical colleges in this country deem necessary to secure theirs.

D. N. KINSMAN, M.D.,  
Dean of Columbus Medical College.

COLUMBUS, O., July 13, 1882.

#### DR. GEORGE MCCLELLAN'S TUBULAR NEEDLE.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: In your issue of July 15th is figured a tubular needle devised by Dr. George McClellan for the pocket-case. If Dr. McClellan will refer to the *Medical and Surgical Reporter* for September 14, 1878, he will find a newly arranged and very compact pocket-case devised by myself, in which, among other improvements, this identical instrument is introduced. In addition to the uses which he points out, he will find it very useful, as there described, in passing harelip pins, during the withdrawal of the needle.

Very truly yours,  
W. W. KEEN, M.D.

PHILADELPHIA, July 17, 1882.

### NEWS ITEMS.

#### VIENNA.

(From our Special Correspondent.)

**BILLROTH'S FESTIVAL.**—The event of the past week has been the celebration of Billroth's declination of Langenbeck's Chair of Surgery in Berlin. The midday reception was held in the aula of the old University, and was replete with everything that is comprehended under the term of "Teutonic splendor." The Faculty of Medicine and corps of teachers attended in body, and representatives of the other faculties were present. The elder

son of Prof. Carl v. Braun Fernwald delivered the address upon the part of the medical students and Faculty of Medicine. The address was strong, but in good taste, and bore the name of Duke Dr. Theodor, of Bavaria, as the first of the undersigned students. Billroth's reply was characteristic in its clearness, conciseness, completeness, and elegance of diction. In one portion of the reply Billroth said, "The highest distinction in my call to Berlin lay in the fact that my beloved master, Langenbeck, to whose eminence I cannot hope to attain, selected me from among all his pupils as his successor. I hold this, in fact, as the highest honor which has formed part of my life, already rich beyond desert in recognitions and distinctions." The torch-light procession in the evening of the same day assumed such gigantic proportions as to resemble the civic processions of mediæval Vienna. "Truly," in the language of a citizen of the Imperial City, "the Billroth Day forms a beautiful page in the history of the Vienna University."

**ELECTION OF RECTOR-MAGNIFICUS, VIENNA UNIVERSITY.**—The Academic Senate and electors of the four Faculties of the Vienna University assembled during last week to elect the Rector-Magnificus for the coming year. After a perfectly amicable congress, Hofrath Dr. Friederich Maassen was elected Rector-Magnificus of Alma Mater Rudolphina for the academic year of 1882-'83. Dr. Anselm Ricker, the present Rector-Magnificus, will officiate during the same period as pro-rector.

**PROF. HENRY J. BIGELOW'S MONOGRAPH, "DIE MODERNE LITHOTRITE."**—Prof. Bigelow's treatise upon "Die Moderne Lithotrite" has been severely and justly criticised in "respect to the German employed," though the merit of the matter of the book is freely acknowledged.

**HEALTH IN MICHIGAN.**—Reports to the State Board of Health, for the week ending July 8, 1882, indicate that diarrhoea and puerperal fever have considerably increased, that diphtheria, cholera morbus, remittent fever, and measles, have increased, and that bronchitis, rheumatism, and cerebro-spinal meningitis have decreased in area of prevalence.

Notwithstanding the increased prevalence of diarrhoea, it is still far below what is usual at this season of the year; and the unusually cool summer is also noticeable for the greatly lessened prevalence of intermittent fever; the per cent. shown in this bulletin being 76, whereas in June and July, 1879 and 1880, over 90 per cent. of the reports received stated its presence.

Including reports by regular observers and by others, small-pox was reported present during the week ending July 8, and since, at 4 places, as follows: at Grand Rapids (one death, July 8, one new case, July 9), at Detroit and at Flint (13 cases), at Lansing (one case), July 12.

**AMERICAN MEDICAL ASSOCIATION.**—The Committee of Publication have adopted the following rules, to ensure promptness in the appearance of the forthcoming volume of transactions:

1. All addresses and papers read at the recent meeting of the Association, and referred to the Committee of Publication, must be in the hands of the Permanent Secretary before July 31.

2. The transactions will absolutely go to press August 5, and all papers or addresses entitled to appear in the volume, not received by July 31, cannot be inserted.

3. Under no circumstances will the Committee permit new material, different from that in the original manuscript, to be added to the proof-sheets.

The following provisions of the by-laws of the Association will be strictly enforced:

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association."

"Authors of papers are required to return their proofs within two weeks after their reception, otherwise they will be passed over and omitted from the volume."

**THE NEW YORK CODE.**—The Jefferson, Oneida, Seneca, and Chautauqua County (N. Y.) Medical Societies, at their late meetings, repudiated the State Society's New Code and reaffirmed their allegiance to the National Code. The Clinton County Society has joined the Tompkins County Society in adopting the New Code. The statistics, so far as heard from, stand twenty-eight County Societies against the New Code to two in favor of it.

**INTRODUCTION AND PREVENTION OF THE SPREAD OF CONTAGIOUS DISEASES BY IMMIGRANTS.**—The Health Officer of the port of New York has issued the following circular to owners and managers of passenger steamship lines at the port of New York:

The following rules and regulations have been adopted by the National Board of Health and approved by the President of the United States, November 14, 1881:

"1. That all persons coming from or through any foreign port or place in which small-pox exists, who after the 14th day of November, 1881, shall arrive at any port of entry within the United States, shall be subjected to examination as regards to their protection from that disease by the proper health authorities of the State within which such port lies; or in case such authorities shall fail or refuse to enforce this rule, then by some officer or proper person to be designated by the President of the United States.

"2. That in case any person so arriving shall refuse to submit to such examination, or upon undergoing the same, shall be found not sufficiently protected from small-pox, such person, and in case he or she be not *sui juris*, then also the person having him or her under charge, shall be detained in quarantine until he or she shall have been properly vaccinated, or shall have passed the period of incubation from date of last exposure."

Attention is also respectfully called to the following rule and regulation of the National Board of Health:

All merchant ships and vessels sailing from a foreign port where contagious or infectious disease exists, for any port of the United States, must obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer, where such officer has been detailed by the President of the United States for that purpose, a bill of health in duplicate, which shall set forth the sanitary history of said vessel, and that it has in all respects complied with these rules and regulations.

Believing that protection of the lives and health of the people demand the adoption of the foregoing rules and regulations, the following requirements will be made of the officers of steamships entering this port:

1. Bills of health will be required by the quarantine officials at this port in conformity with the above regulations.

2. All immigrants on arrival at quarantine will be subjected to examination as regards their protection from small-pox.

3. The examination of all immigrants by the medical officers of steamships within twenty-four hours after leaving port, and the vaccination of those who give

evidence of insufficient protection through previous vaccination, will, if considered by the medical officer at quarantine to have been faithfully and intelligently performed, exempt immigrant passengers from such examination at quarantine as may be necessary to determine whether or not such passengers are protected from the effect of the contagion of small-pox, except where small-pox exists, or has existed, on board the vessel on the passage to this port, in which case the passengers will be examined and vaccinated at quarantine, if not sufficiently protected by previous vaccination.

4. A certificate or card in the hand of each passenger, or the parent or guardian of the passenger, on which shall be written or printed "Vaccinated," and signed by the medical officer of the steamship, will be understood to indicate that such passenger is sufficiently protected by previous vaccination or through the vaccination made on shipboard. All passengers not having such certificate will be considered and treated as exposed or unprotected.

5. The medical officers of passenger steamships will be required to verify under oath the number of persons considered protected by vaccination and small-pox.

6. All persons not protected will be vaccinated or subjected to a quarantine of observation.

The examination of such passengers as are vaccinated soon after leaving the port of departure, and shortly before entering this port to determine results, is earnestly enjoined upon medical officers.

Satisfactory evidence of adequate protection of immigrant passengers from previous vaccination, or through early vaccination by the medical officer of the ship, will not only contribute to the protection of the public health and security, but will promote the interests of passenger lines by saving time and expense at quarantine.

Inspection of emigrants will be made at certain places along the interior line of travel. Uniformity in the form of certificate (or card) given to emigrants is therefore necessary.

**THE CHAIR OF GYNECOLOGY AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.**—We understand that Dr. T. Gaillard Thomas has consented to resume his connection with the college, with Dr. Chas. S. Ward as *chef de clinique*.

**THE BACILLI TUBERCULOSIS.**—Ehrlich's method of staining the bacilli of tubercle, as detailed in THE MEDICAL NEWS for July 8, has been adopted by Koch, as better than his own process, and is now generally employed in Berlin as a means of diagnosing tuberculous affections of the lungs.

**THE SUPPRESSION OF JUVENILE SMOKING.**—Dr. B. W. Richardson, nothing daunted by the work of resisting the drunkenness of the age, has just been presiding, at London, over the foundation of a society for the suppression of juvenile smoking.

**BARTHOLOW'S PRACTICE OF MEDICINE**, we learn from Canton, is being translated into the Chinese language.

**DEMONSTRATION OF THE BACILLUS TUBERCULOSIS BEFORE THE EMPEROR OF GERMANY.**—By request DR. ROBERT KOCH demonstrated the bacillus tuberculosis to the Emperor of Germany, and explained his views of the pathology of tubercle.

**BRIGHTON vs. THE LANCET.**—Suit has been brought against the London *Lancet* by the Corporation of the town of Brighton, for slander on the town and a libel on its authorities for pointing out the defects in its sani-

tary arrangements. *The Lancet* boldly accepts the suit and manfully claims that "if the truth cannot be legally spoken or written as to the sanitary condition of a town, it is time that this should be known, and the public should once for all understand that the supposed guardians of their interests in the matter of health are gagged and silenced by the law."

THE BRITISH MEDICAL ASSOCIATION will hold a Jubilee Meeting at Worcester, August 8, 9, 10, and 11, 1882.

CHOLERA.—A Reuter's telegram states that cholera has broken out in Japan, and in the islands belonging to the Sooloo Archipelago.

THE USE OF AMMONIA IN BAKING POWDERS.—Among the recent discoveries in domestic science and chemistry none are more important than the uses to which common ammonia can be properly put as a leavening agent, and which indicate that this familiar salt is hereafter to perform an active part in the preparation of our daily food.

The carbonate of ammonium is an exceedingly volatile substance. Place a small portion of it upon a knife and hold over a flame, and it will almost immediately be entirely developed into gas and pass off into the air. The gas thus formed is a simple composition of nitrogen and hydrogen. No residue is left from the ammonia. This gives it its superiority as a leavening power over soda and cream of tartar when used alone, and has induced its use as a supplement to these articles. A small quantity of ammonia in the dough is effective in producing bread that will be lighter, sweeter, and more wholesome than that risen by any other leavening agent. When it is acted on by the heat of baking the leavening gas that raises the dough is liberated. In this act it uses itself up, as it were; the ammonia is entirely diffused, leaving no trace or residuum whatever. The light, fluffy, flaky appearance, so desirable in biscuits, etc., and so sought after by professional cooks, is said to be imparted to them by the use of this agent.—*Scientific American*, May 27, 1882.

SEA-WATER IN SCROFULA.—DR. LENA recommends the use of bread made with sea-water in the treatment of scrofula.

DEATH FROM BURNING.—The burning of the Ring Theatre at Vienna gave rise to many important medico-legal investigations respecting the sex and identity of charred corpses, of which Ed. Hofmann and Schultze give a description (*Wiener Med. Blätter*, 1881, No. 50, p. 1538). In determining the sex in cases where the external genitals were completely destroyed, the chief point relied upon was the absence or presence of the uterus and ovaries. In ascertaining the approximate age, external appearances were quite unreliable. The union of the epiphysis with the diaphysis of the humerus, which first takes place at twenty-four years of age; the ossification of the ribs, and more especially the ossification of the larynx, which generally begins between the thirtieth and thirty-fifth year, and is completed in the fortieth year, were found to be the best and most easily ascertained data. In women, the state of the ovaries was important; these being smooth in girls and young women, cicatrized in older women. The hair of the head and beard was generally black, and had to be washed before its natural color could be ascertained. The cornea was generally milky and turbid, as if boiled. Often the obsolescence of the cornea gave to the iris a deceptive blue appearance. The teeth, though calcined and crumbled, were, nevertheless, serviceable in de-

termining the age. The nails, too, in some cases, served for identification. In a large number of cases the blood was of a florid color; and this may have been due to the inhalation of carbonic oxide gas.—*London Med. Record*, May 15, 1882.

DIED, at Norwalk, Conn., on July 8, after a lingering illness, consequent upon Bright's disease, FRANCIS V. BRUSH, M.D.

Dr. Brush was born in Brooklyn, August 26, 1844, and was for many years a resident of that city, his father, the late Major Conklin Brush, having been identified with her interests during a very important period of her history. Dr. B. was a graduate of the College of Physicians and Surgeons, N. Y. He was a leading practitioner and active citizen in Norwalk.

—On June 28, AMÉDÉE LATOUR, the former editor of *L'Union Médicale*.

## NOTES AND QUERIES.

### IODIDE OF AMMONIUM IN THE TREATMENT OF DIPHTHERIA.

DR. V. SCHRAKIN-ROSS, of Yankton, Dakota Territory, writes to us, recommending in the treatment of diphtheria the use of iodide of ammonium, in solution, internally, with the local application of Lugol's solution to the throat, every three or four hours. By this method he has treated, during the last five months, thirty-two cases, with but a single death. The iodide of ammonium acts, he thinks, by averting the systemic depression which is always present in diphtheria, and by its power of markedly reducing the febrile temperature.

### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 11 TO JULY 17, 1882.

GREENLEAF, C. R., *Major and Surgeon*.—Now awaiting orders, to report in person to the Commanding Officer, Columbus Barracks, Ohio, for duty as Post Surgeon at that post.—*S. O. 100, A. G. O., July 12, 1882.*

BROOKE, JOHN, *Captain and Assistant Surgeon*.—Having reported at these headquarters, is assigned to duty as Post Surgeon at Angel Island, California.—*S. O. 120, Military Division of the Pacific and Department of California, July 7, 1882.*

GIRARD, J. B., *Captain and Assistant Surgeon*.—Relieved from duty at Fort Grant, Arizona Territory, and assigned to duty at Fort Lowell, Arizona Territory.—*S. O. 106, Department of Arizona, July 3, 1882.*

BYRNE, C. B., *Captain and Assistant Surgeon* (Fort Barrancas, Fla.).—Granted leave of absence for one month, with permission to leave the department and to apply for an extension of two months.—*S. O. 68, Department of the South, July 12, 1882.*

HAVARD, VALERY, *Captain and Assistant Surgeon*.—Relieved from temporary duty at these headquarters, and at post of San Antonio, and assigned to duty as Post Surgeon at Fort Duncan, Texas.—*S. O. 68, Department of Texas, July 5, 1882.*

FINLEY, J. A., *Captain and Assistant Surgeon*.—Assigned to duty as Post Surgeon at Fort Concho, Texas (Fort McKavett abandoned).—*S. O. 68, c. s. Department of Texas.*

POWELL, J. A., *First Lieutenant and Assistant Surgeon*.—To report to the Commanding Officer Fort Davis, Texas, for duty (Fort Stockton, Texas, abandoned).—*S. O. 68, c. s. Department of Texas.*

GORGAS, W. C., *First Lieutenant and Assistant Surgeon*.—When relieved by Assistant Surgeon Havard, to report to the Commanding Officer Fort Brown, Texas, for duty.—*S. O. 68, c. s. Department of Texas.*

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.